

108TH CONGRESS }
2d Session

COMMITTEE PRINT

{ COMMITTEE
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A COMPILATION OF FEDERAL
SCIENCE LAWS

As Amended Through December 31, 2003

PREPARED FOR THE USE OF THE
COMMITTEE ON SCIENCE
OF THE
U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED EIGHTH CONGRESS
SECOND SESSION



APRIL 2004

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AVIATION SAFETY RESEARCH

(Chapter 445 of title 49, United States Code)

CHAPTER 445—FACILITIES, PERSONNEL, AND RESEARCH

Sec.

- 44501. Plans and policy.
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§ 44501. Plans and policy

(a) **LONG RANGE PLANS AND POLICY REQUIREMENTS.**—The Administrator of the Federal Aviation Administration shall make long range plans and policy for the orderly development and use of the navigable airspace, and the orderly development and location of air navigation facilities, that will best meet the needs of, and serve the interests of, civil aeronautics and the national defense, except for needs of the armed forces that are peculiar to air warfare and primarily of military concern.

(b) **AIRWAY CAPITAL INVESTMENT PLAN.**—The Administrator of the Federal Aviation Administration shall review, revise, and publish a national airways system plan, known as the Airway Capital Investment Plan, before the beginning of each fiscal year. The plan shall set forth—

(1) for a 10-year period, the research, engineering, and development programs and the facilities and equipment that the Administrator considers necessary for a system of airways, air traffic services, and navigation aids that will—

(A) meet the forecasted needs of civil aeronautics;

(B) meet the requirements that the Secretary of Defense establishes for the support of the national defense; and

(C) provide the highest degree of safety in air commerce;

(2) for the first and 2d years of the plan, detailed annual estimates of—

(A) the number, type, location, and cost of acquiring, operating, and maintaining required facilities and services;

(B) the cost of research, engineering, and development required to improve safety, system capacity, and efficiency; and

(C) personnel levels required for the activities described in subclauses (A) and (B) of this clause;

(3) for the 3d, 4th, and 5th years of the plan, estimates of the total cost of each major program for the 3-year period, and additional major research programs, acquisition of systems and facilities, and changes in personnel levels that may be required to meet long range objectives and that may have significant impact on future funding requirements; and

(4) a 10-year investment plan that considers long range objectives that the Administrator considers necessary to—

(A) ensure that safety is given the highest priority in providing for a safe and efficient airway system; and

(B) meet the current and projected growth of aviation and the requirements of interstate commerce, the United States Postal Service, and the national defense.

(c) NATIONAL AVIATION RESEARCH PLAN.—(1) The Administrator of the Federal Aviation Administration shall prepare and publish annually a national aviation research plan and submit the plan to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science of the House of Representatives. The plan shall be submitted not later than the date of submission of the President's budget to Congress.

(2)(A) The plan shall describe, for a 5-year period, the research, engineering, and development that the Administrator of the Federal Aviation Administration considers necessary—

(i) to ensure the continued capacity, safety, and efficiency of aviation in the United States, considering emerging technologies and forecasted needs of civil aeronautics; and

(ii) to provide the highest degree of safety in air travel.

(B) The plan shall—

(i) provide estimates by year of the schedule, cost, and work force levels for each active and planned major research and development project under sections 40119, 44504, 44505, 44507, 44509, 44511–44513, and 44912 of this title, including activities carried out under cooperative agreements with other Federal departments and agencies;

(ii) specify the goals and the priorities for allocation of resources among the major categories of research and development activities, including the rationale for the priorities identified;

(iii) identify the allocation of resources among long-term research, near-term research, and development activities;

(iv) identify the individual research and development projects in each funding category that are described in the annual budget request;

(v) highlight the research and development activities that address specific recommendations of the research advisory committee established under section 44508 of this title, and

document the recommendations of the committee that are not accepted, specifying the reasons for nonacceptance; and

(vi) highlight the research and development technology transfer activities that promote technology sharing among government, industry, and academia through the Stevenson-Wydler Technology Innovation Act of 1980.

(3) Subject to section 40119(b) of this title and regulations prescribed under section 40119(b), the Administrator of the Federal Aviation Administration shall submit to the committees named in paragraph (1) of this subsection an annual report on the accomplishments of the research completed during the prior fiscal year, including a description of the dissemination to the private sector of research results and a description of any new technologies developed. The report shall be submitted with the plan required under paragraph (1) and be organized to allow comparison with the plan in effect for the prior fiscal year. The report shall be prepared in accordance with requirements of section 1116 of title 31.

* * * * *

§ 44505. Systems, procedures, facilities, and devices

(a) GENERAL REQUIREMENTS.—(1) The Administrator of the Federal Aviation Administration shall—

(A) develop, alter, test, and evaluate systems, procedures, facilities, and devices, and define their performance characteristics, to meet the needs for safe and efficient navigation and traffic control of civil and military aviation, except for needs of the armed forces that are peculiar to air warfare and primarily of military concern; and

(B) select systems, procedures, facilities, and devices that will best serve those needs and promote maximum coordination of air traffic control and air defense systems.

(2) The Administrator may make contracts to carry out this subsection without regard to section 3324(a) and (b) of title 31.

(3) When a substantial question exists under paragraph (1) of this subsection about whether a matter is of primary concern to the armed forces, the Administrator shall decide whether the Administrator or the Secretary of the appropriate military department has responsibility. The Administrator shall be given technical information related to each research and development project of the armed forces that potentially applies to, or potentially conflicts with, the common system to ensure that potential application to the common system is considered properly and that potential conflicts with the system are eliminated.

(b) RESEARCH ON HUMAN FACTORS AND SIMULATION MODELS.—The Administrator shall conduct or supervise research—

(1) to develop a better understanding of the relationship between human factors and aviation accidents and between human factors and air safety;

(2) to enhance air traffic controller, mechanic, and flight crew performance;

(3) to develop a human-factor analysis of the hazards associated with new technologies to be used by air traffic controllers, mechanics, and flight crews;

(4) to identify innovative and effective corrective measures for human errors that adversely affect air safety; and

(5) to develop dynamic simulation models of the air traffic control system and airport design and operating procedures that will provide analytical technology—

(A) to predict airport and air traffic control safety and capacity problems;

(B) to evaluate planned research projects; and

(C) to test proposed revisions in airport and air traffic control operations programs.

(c) RESEARCH ON DEVELOPING AND MAINTAINING A SAFE AND EFFICIENT SYSTEM.—The Administrator shall conduct or supervise research on—

(1) airspace and airport planning and design;

(2) airport capacity enhancement techniques;

(3) human performance in the air transportation environment;

(4) aviation safety and security;

(5) the supply of trained air transportation personnel, including pilots and mechanics; and

(6) other aviation issues related to developing and maintaining a safe and efficient air transportation system.

(d) COOPERATIVE AGREEMENTS.—The Administrator may enter into cooperative agreements on a cost-shared basis with Federal and non-Federal entities that the Administrator may select in order to conduct, encourage, and promote aviation research, engineering, and development, including the development of prototypes and demonstration models.

§ 44506. Air traffic controllers

(a) RESEARCH ON EFFECT OF AUTOMATION ON PERFORMANCE.—To develop the means necessary to establish appropriate selection criteria and training methodologies for the next generation of air traffic controllers, the Administrator of the Federal Aviation Administration shall conduct research to study the effect of automation on the performance of the next generation of air traffic controllers and the air traffic control system. The research shall include investigating—

(1) methods for improving and accelerating future air traffic controller training through the application of advanced training techniques, including the use of simulation technology;

(2) the role of automation in the air traffic control system and its physical and psychological effects on air traffic controllers;

(3) the attributes and aptitudes needed to function well in a highly automated air traffic control system and the development of appropriate testing methods for identifying individuals with those attributes and aptitudes;

(4) innovative methods for training potential air traffic controllers to enhance the benefits of automation and maximize the effectiveness of the air traffic control system; and

(5) new technologies and procedures for exploiting automated communication systems, including Mode S Transponders, to improve information transfers between air traffic controllers and aircraft pilots.

(b) **RESEARCH ON HUMAN FACTOR ASPECTS OF AUTOMATION.**—The Administrators of the Federal Aviation Administration and National Aeronautics and Space Administration may make an agreement for the use of the National Aeronautics and Space Administration's unique human factor facilities and expertise in conducting research activities to study the human factor aspects of the highly automated environment for the next generation of air traffic controllers. The research activities shall include investigating—

(1) human perceptual capabilities and the effect of computer-aided decision making on the workload and performance of air traffic controllers;

(2) information management techniques for advanced air traffic control display systems; and

(3) air traffic controller workload and performance measures, including the development of predictive models.

(c) **COLLEGIATE TRAINING INITIATIVE.**—(1) The Administrator of the Federal Aviation Administration may maintain the Collegiate Training Initiative program by making new agreements and continuing existing agreements with institutions of higher education (as defined by the Administrator) under which the institutions prepare students for the position of air traffic controller with the Department of Transportation (as defined in section 2109 of title 5). The Administrator may establish standards for the entry of institutions into the program and for their continued participation.

(2)(A) The Administrator of the Federal Aviation Administration may appoint an individual who has successfully completed a course of training in a program described in paragraph (1) of this subsection to the position of air traffic controller noncompetitively in the excepted service (as defined in section 2103 of title 5). An individual appointed under this paragraph serves at the pleasure of the Administrator, subject to section 7511 of title 5. However, an appointment under this paragraph may be converted from one in the excepted service to a career conditional or career appointment in the competitive civil service (as defined in section 2102 of title 5) when the individual achieves full performance level air traffic controller status, as decided by the Administrator.

(B) The authority under subparagraph (A) of this paragraph to make appointments in the excepted service expires on October 6, 1997, except that the Administrator of the Federal Aviation Administration may extend the authority for one or more successive one-year periods.

(d) **STAFFING REPORT.**—The Administrator of the Federal Aviation Administration shall submit annually to the Committee on Transportation and Infrastructure of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report containing—

(1) the staffing standards used to determine the number of air traffic controllers needed to operate the air traffic control system of the United States;

(2) a 3-year projection of the number of controllers needed to be employed to operate the system to meet the standards; and

(3) a detailed plan for employing the controllers, including projected budget requests.

§ 44507. Civil aeromedical research

The Civil Aeromedical Institute established by section 106(j) of this title may—

(1) conduct civil aeromedical research, including research related to—

(A) the protection and survival of aircraft occupants;

(B) medical accident investigation and airman medical certification;

(C) toxicology and the effects of drugs on human performance;

(D) the impact of disease and disability on human performance;

(E) vision and its relationship to human performance and equipment design;

(F) human factors of flight crews, air traffic controllers, mechanics, inspectors, airway facility technicians, and other individuals involved in operating and maintaining aircraft and air traffic control equipment; and

(G) agency work force optimization, including training, equipment design, reduction of errors, and identification of candidate tasks for automation;

(2) make comments to the Administrator of the Federal Aviation Administration on human factors aspects of proposed air safety regulations;

(3) make comments to the Administrator on human factors aspects of proposed training programs, equipment requirements, standards, and procedures for aviation personnel;

(4) advise, assist, and represent the Federal Aviation Administration in the human factors aspects of joint projects between the Administration and the National Aeronautics and Space Administration, other departments, agencies, and instrumentalities of the United States Government, industry, and governments of foreign countries; and

(5) provide medical consultation services to the Administrator about medical certification of airmen.

§ 44508. Research advisory committee

(a) ESTABLISHMENT AND DUTIES.—(1) There is a research advisory committee in the Federal Aviation Administration. The committee shall—

(A) provide advice and recommendations to the Administrator of the Federal Aviation Administration about needs, objectives, plans, approaches, content, and accomplishments of the aviation research program carried out under sections 40119, 44504, 44505, 44507, 44511–44513, and 44912 of this title;

(B) assist in ensuring that the research is coordinated with similar research being conducted outside the Administration;

(C) review the operations of the regional centers of air transportation excellence established under section 44513 of this title; and

(D) annually review the allocation made by the Administrator of the amounts authorized by section 48102(a) of this title among the major categories of research and development

activities carried out by the Administration and provide advice and recommendations to the Administrator on whether such allocation is appropriate to meet the needs and objectives identified under subparagraph (A).

(2) The Administrator may establish subordinate committees to provide advice on specific areas of research conducted under sections 40119, 44504, 44505, 44507, 44511–44513, and 44912 of this title.

(b) MEMBERS, CHAIRMAN, PAY, AND EXPENSES.—(1) The committee is composed of not more than 30 members appointed by the Administrator from among individuals who are not employees of the Administration and who are specially qualified to serve on the committee because of their education, training, or experience. In appointing members of the committee, the Administrator shall ensure that the regional centers of air transportation excellence, universities, corporations, associations, consumers, and other departments, agencies, and instrumentalities of the United States Government are represented.

(2) The Administrator shall designate the chairman of the committee.

(3) A member of the committee serves without pay. However, the Administrator may allow a member, when attending meetings of the committee or a subordinate committee, expenses as authorized under section 5703 of title 5.

(c) SUPPORT STAFF, INFORMATION, AND SERVICES.—The Administrator shall provide support staff for the committee. On request of the committee, the Administrator shall provide information, administrative services, and supplies that the Administrator considers necessary for the committee to carry out its duties and powers.

(d) NONAPPLICATION.—Section 14 of the Federal Advisory Committee Act (5 App. U.S.C.) does not apply to the committee.

(e) USE AND LIMITATION OF AMOUNTS.—(1) Not more than .1 percent of the amounts made available to conduct research under sections 40119, 44504, 44505, 44507, 44511–44513, and 44912 of this title may be used by the Administrator to carry out this section.

(2) A limitation on amounts available for obligation by or for the committee does not apply to amounts made available to carry out this section.

§ 44509. Demonstration projects

The Secretary of Transportation may carry out under this chapter demonstration projects that the Secretary considers necessary for research and development activities under this chapter.

* * * * *

§ 44511. Aviation research grants

(a) GENERAL AUTHORITY.—The Administrator of the Federal Aviation Administration may make grants to institutions of higher education and nonprofit research organizations to conduct aviation research in areas the Administrator considers necessary for the long-term growth of civil aviation.

(b) APPLICATIONS.—An institution of higher education or non-profit research organization interested in receiving a grant under this section may submit an application to the Administrator. The application must be in the form and contain the information the Administrator requires.

(c) SOLICITATION, REVIEW, AND EVALUATION PROCESS.—The Administrator shall establish a solicitation, review, and evaluation process that ensures—

(1) providing grants under this section for proposals having adequate merit and relevancy to the mission of the Administration;

(2) a fair geographical distribution of grants under this section; and

(3) the inclusion of historically black institutions of higher education and other minority nonprofit research organizations for grant consideration under this section.

(d) RECORDS.—Each person receiving a grant under this section shall maintain records that the Administrator requires as being necessary to facilitate an effective audit and evaluation of the use of money provided under the grant.

(e) ANNUAL REPORT.—The Administrator shall submit an annual report to the Committee on Science of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate on carrying out this section.

(f) AIRPORT COOPERATIVE RESEARCH PROGRAM.—

(1) ESTABLISHMENT.—The Secretary of Transportation shall establish a 4-year pilot airport cooperative research program to—

(A) identify problems that are shared by airport operating agencies and can be solved through applied research but that are not being adequately addressed by existing Federal research programs; and

(B) fund research to address those problems.

(2) GOVERNANCE.—The Secretary of Transportation shall appoint an independent governing board for the research program established under this subsection. The governing board shall be appointed from candidates nominated by national associations representing public airport operating agencies, airport executives, State aviation officials, and the scheduled airlines, and shall include representatives of appropriate Federal agencies. Section 14 of the Federal Advisory Committee Act shall not apply to the governing board.

(3) IMPLEMENTATION.—The Secretary of Transportation shall enter into an arrangement with the National Academy of Sciences to provide staff support to the governing board established under paragraph (2) and to carry out projects proposed by the governing board that the Secretary considers appropriate.

(4) REPORT.—Not later than 6 months after the expiration of the program under this subsection, the Secretary shall transmit to the Congress a report on the program, including recommendations as to the need for establishing a permanent airport cooperative research program.

§ 44512. Catastrophic failure prevention research grants

(a) GENERAL AUTHORITY.—The Administrator of the Federal Aviation Administration may make grants to institutions of higher education and nonprofit research organizations—

(1) to conduct aviation research related to the development of technologies and methods to assess the risk of, and prevent, defects, failures, and malfunctions of products, parts, processes, and articles manufactured for use in aircraft, aircraft engines, propellers, and appliances that could result in a catastrophic failure of an aircraft; and

(2) to establish centers of excellence for continuing the research.

(b) SOLICITATION, APPLICATION, REVIEW, AND EVALUATION PROCESS.—The Administrator shall establish a solicitation, application, review, and evaluation process that ensures providing grants under this section for proposals having adequate merit and relevancy to the research described in subsection (a) of this section.

§ 44513. Regional centers of air transportation excellence

(a) GENERAL AUTHORITY.—The Administrator of the Federal Aviation Administration may make grants to institutions of higher education to establish and operate regional centers of air transportation excellence. The locations shall be distributed in a geographically fair way.

(b) RESPONSIBILITIES.—(1) The responsibilities of each center established under this section shall include—

(A) conducting research on—

(i) airspace and airport planning and design;

(ii) airport capacity enhancement techniques;

(iii) human performance in the air transportation environment;

(iv) aviation safety and security;

(v) the supply of trained air transportation personnel, including pilots and mechanics; and

(vi) other aviation issues related to developing and maintaining a safe and efficient air transportation system; and

(B) interpreting, publishing, and disseminating the results of the research.

(2) In conducting research described in paragraph (1)(A) of this subsection, each center may make contracts with nonprofit research organizations and other appropriate persons.

(c) APPLICATIONS.—An institution of higher education interested in receiving a grant under this section may submit an application to the Administrator. The application must be in the form and contain the information that the Administrator requires by regulation.

(d) SELECTION CRITERIA.—The Administrator shall select recipients of grants under this section on the basis of the following criteria:

(1) the extent to which the needs of the State in which the applicant is located are representative of the needs of the region for improved air transportation services and facilities.

(2) the demonstrated research and extension resources available to the applicant to carry out this section.

(3) the ability of the applicant to provide leadership in making national and regional contributions to the solution of both long-range and immediate air transportation problems.

(4) the extent to which the applicant has an established air transportation program.

(5) the demonstrated ability of the applicant to disseminate results of air transportation research and educational programs through a statewide or regionwide continuing education program.

(6) the projects the applicant proposes to carry out under the grant.

(e) EXPENDITURE AGREEMENTS.—A grant may be made under this section in a fiscal year only if the recipient makes an agreement with the Administrator that the Administrator requires to ensure that the recipient will maintain its total expenditures from all other sources for establishing and operating the center and related research activities at a level at least equal to the average level of those expenditures in the 2 fiscal years of the recipient occurring immediately before November 5, 1990.

(f) GOVERNMENT'S SHARE OF COSTS.—The United States Government's share of a grant under this section is 50 percent of the costs of establishing and operating the center and related research activities that the grant recipient carries out.

(g) ALLOCATING AMOUNTS.—The Administrator shall allocate amounts made available to carry out this section in a geographically fair way.

* * * * *

FEDERAL AVIATION ADMINISTRATION RESEARCH, ENGINEERING, AND DEVELOPMENT AUTHORIZATION ACT OF 1992¹

TITLE III—RESEARCH, ENGINEERING, AND DEVELOPMENT

SEC. 301. SHORT TITLE.

This title may be cited as the “Federal Aviation Administration Research, Engineering, and Development Authorization Act of 1992”.

* * * * *

SEC. 304. [49 U.S.C. 47508 note] AIRCRAFT NOISE RESEARCH PROGRAM.

(a) **ESTABLISHMENT.**—The Administrator of the Federal Aviation Administration and the Administrator of the National Aeronautics and Space Administration shall jointly conduct a research program to develop new technologies for quieter subsonic jet aircraft engines and airframes.

(b) **GOAL.**—The goal of the research program established by subsection (a) is to develop by the year 2000 technologies for subsonic jet aircraft engines and airframes which would permit a subsonic jet aircraft to operate at reduced noise levels.

(c) **PARTICIPATION.**—In carrying out the program established by subsection (a), the Administrator of the Federal Aviation Administration and the Administrator of the National Aeronautics and Space Administration shall encourage the participation of representatives of the aviation industry and academia.

(d) **REPORT TO CONGRESS.**—The Administrator of the Federal Aviation Administration and the Administrator of the National Aeronautics and Space Administration shall jointly submit to Congress, on an annual basis during the term of the program established by subsection (a), a report on the progress being made under the program toward meeting the goal described in subsection (b).

SEC. 305. [49 U.S.C. 50101 note] USE OF DOMESTIC PRODUCTS.

(a) **PROHIBITION AGAINST FRAUDULENT USE OF “MADE IN AMERICA” LABELS.**—(1) A person shall not intentionally affix a label bearing the inscription of “Made in America”, or any inscription with that meaning, to any product sold in or shipped to the United States, if that product is not a domestic product.

¹This title was enacted as title III of the Airport and Airway Safety, Capacity, Noise Improvement, and Intermodal Transportation Act of 1992 (Public Law 102-581).

(2) A person who violates paragraph (1) shall not be eligible for any contract for a procurement carried out with amounts authorized under this title, including any subcontract under such a contract pursuant to the debarment, suspension, and ineligibility procedures in subpart 9.4 of chapter 1 of title 48, Code of Federal Regulations, or any successor procedures thereto.

(b) COMPLIANCE WITH BUY AMERICAN ACT.—(1) Except as provided in paragraph (2), the head of each agency which conducts procurements shall ensure that such procurements are conducted in compliance with sections 2 through 4 of the Act of March 3, 1933 (41 U.S.C. 10a through 10c, popularly known as the “Buy American Act”).

(2) This subsection shall apply only to procurements made for which—

(A) amounts are authorized by this title to be made available; and

(B) solicitations for bids are issued after the date of enactment of this Act.

(3) The Secretary of Transportation, before January 1, 1994, shall report to the Congress on procurements covered under this subsection of products that are not domestic products.

(c) DEFINITIONS.—For the purposes of this section, the term “domestic product” means a product—

(1) that is manufactured or produced in the United States; and

(2) at least 50 percent of the cost of the articles, materials, or supplies of which are mined, produced, or manufactured in the United States.

FEDERAL AVIATION ADMINISTRATION RESEARCH, ENGINEERING, AND DEVELOPMENT AUTHORIZATION ACT OF 1994¹

TITLE III—RESEARCH, ENGINEERING, AND DEVELOPMENT

SEC. 301. [49 U.S.C. 40101 note] SHORT TITLE.

This title may be cited as the “Federal Aviation Administration Research, Engineering, and Development Authorization Act of 1994”.

* * * * *

SEC. 303. [49 U.S.C. 40101 note] JOINT AVIATION RESEARCH AND DEVELOPMENT PROGRAM.

(a) **ESTABLISHMENT.**—The Administrator, in consultation with the heads of other appropriate Federal agencies, shall jointly establish a program to conduct research on aviation technologies that enhance United States competitiveness. The program shall include—

- (1) next-generation satellite communications, including global positioning satellites;
- (2) advanced airport and airplane security;
- (3) environmentally compatible technologies, including technologies that limit or reduce noise and air pollution;
- (4) advanced aviation safety programs; and
- (5) technologies and procedures to enhance and improve airport and airway capacity.

(b) **PROCEDURES FOR CONTRACTS AND GRANTS.**—The Administrator and the heads of the other appropriate Federal agencies shall administer contracts and grants entered into under the program established under subsection (a) in accordance with procedures developed jointly by the Administrator and the heads of the other appropriate Federal agencies. The procedures should include an integrated acquisition policy for contract and grant requirements and for technical data rights that are not an impediment to joint programs among the Federal Aviation Administration, the other Federal agencies involved, and industry.

(c) **PROGRAM ELEMENTS.**—The program established under subsection (a) shall include—

¹This title was enacted as title III of the Federal Aviation Administration Authorization Act of 1994 (Public Law 103-305).

(1) selected programs that jointly enhance public and private aviation technology development;

(2) an opportunity for private contractors to be involved in such technology research and development; and

(3) the transfer of Government-developed technologies to the private sector to promote economic strength and competitiveness.

(d) AUTHORIZATION OF APPROPRIATIONS.—Of amounts authorized to be appropriated for fiscal years 1995 and 1996 under section 48102(a) of title 49, United States Code, as amended by section 302 of this title, there are authorized to be appropriated for fiscal years 1995 and 1996, respectively, such sums as may be necessary to carry out this section.

SEC. 304. [49 U.S.C. 40101 note] AIRCRAFT CABIN AIR QUALITY RESEARCH PROGRAM.

(a) ESTABLISHMENT.—The Administrator, in consultation with the heads of other appropriate Federal agencies, shall establish a research program to determine—

(1) what, if any, aircraft cabin air conditions, including pressure altitude systems, on flights within the United States are harmful to the health of airline passengers and crew, as indicated by physical symptoms such as headaches, nausea, fatigue, and lightheadedness; and

(2) the risk of airline passengers and crew contracting infectious diseases during flight.

(b) CONTRACT WITH CENTER FOR DISEASE CONTROL.—In carrying out the research program established under subsection (a), the Administrator and the heads of the other appropriate Federal agencies shall contract with the Center for Disease Control and other appropriate agencies to carry out any studies necessary to meet the goals of the program set forth in subsection (c).

(c) GOALS.—The goals of the research program established under subsection (a) shall be—

(1) to determine what, if any, cabin air conditions currently exist on domestic aircraft used for flights within the United States that could be harmful to the health of airline passengers and crew, as indicated by physical symptoms such as headaches, nausea, fatigue, and lightheadedness, and including the risk of infection by bacteria and viruses;

(2) to determine to what extent, changes in, cabin air pressure, temperature, rate of cabin air circulation, the quantity of fresh air per occupant, and humidity on current domestic aircraft would reduce or eliminate the risk of illness or discomfort to airline passengers and crew; and

(3) to establish a long-term research program to examine potential health problems to airline passengers and crew that may arise in an airplane cabin on a flight within the United States because of cabin air quality as a result of the conditions and changes described in paragraphs (1) and (2).

(d) PARTICIPATION.—In carrying out the research program established under subsection (a), the Administrator shall encourage participation in the program by representatives of aircraft manufacturers, air carriers, aviation employee organizations, airline passengers, and academia.

(e) REPORT.—(1) Within six months after the date of enactment of this Act, the Administrator shall submit to the Congress a plan for implementation of the research program established under subsection (a).

(2) The Administrator shall annually submit to the Congress a report on the progress made during the year for which the report is submitted toward meeting the goals set forth in subsection (c).

(f) AUTHORIZATION OF APPROPRIATIONS.—Of amounts authorized to be appropriated for fiscal years 1995 and 1996 under section 48102(a) of title 49, United States Code, as amended by section 302 of this title, there are authorized to be appropriated for fiscal years 1995 and 1996, respectively, such sums as may be necessary to carry out this section.

SEC. 305. [49 U.S.C. 50101 note] USE OF DOMESTIC PRODUCTS.

(a) PROHIBITION AGAINST FRAUDULENT USE OF “MADE IN AMERICA” LABELS.—(1) A person shall not intentionally affix a label bearing the inscription of “Made in America”, or any inscription with that meaning, to any product sold in or shipped to the United States, if that product is not a domestic product.

(2) A person who violates paragraph (1) shall not be eligible for any contract for a procurement carried out with amounts authorized under this title, including any subcontract under such a contract pursuant to the debarment, suspension, and ineligibility procedures in subpart 9.4 of chapter 1 of title 48, Code of Federal Regulations, or any successor procedures thereto.

(b) COMPLIANCE WITH BUY AMERICAN ACT.—(1) Except as provided in paragraph (2), the head of each office within the Federal Aviation Administration that conducts procurements shall ensure that such procurements are conducted in compliance with sections 2 through 4 of the Act of March 3, 1933 (41 U.S.C. 10a through 10c, popularly known as the “Buy American Act”).

(2) This subsection shall apply only to procurements made for which—

(A) amounts are authorized by this title to be made available; and

(B) solicitations for bids are issued after the date of the enactment of this Act.

(3) The Secretary, before January 1, 1995, shall report to the Congress on procurements covered under this subsection of products that are not domestic products.

(c) DEFINITIONS.—For the purposes of this section, the term “domestic product” means a product—

(1) that is manufactured or produced in the United States; and

(2) at least 50 percent of the cost of the articles, materials, or supplies of which are mined, produced, or manufactured in the United States.

SEC. 306. [49 U.S.C. 50101 note] PURCHASE OF AMERICAN MADE EQUIPMENT AND PRODUCTS.

(a) SENSE OF CONGRESS.—It is the sense of Congress that any recipient of a grant under this title, or under any amendment made by this title, should purchase, when available and cost-effective, American made equipment and products when expending grant monies.

(b) NOTICE TO RECIPIENTS OF ASSISTANCE.—In allocating grants under this title, or under any amendment made by this title, the Secretary shall provide to each recipient a notice describing the statement made in subsection (a) by the Congress.

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**INTERMODAL SURFACE TRANSPORTATION EFFICIENCY
ACT OF 1991**

(Public Law 102-240)

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TITLE I—SURFACE TRANSPORTATION

Part A—Title 23 Programs

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SEC. 1036. NATIONAL HIGH-SPEED GROUND TRANSPORTATION PROGRAMS.

(a) **DECLARATION OF POLICY.**—Section 302 of title 49, United States Code, is amended by adding at the end the following new subsection:

“(d)(1) It is the policy of the United States to promote the construction and commercialization of high-speed ground transportation systems by—

“(A) conducting economic and technological research;

“(B) demonstrating advancements in high-speed ground transportation technologies;

“(C) establishing a comprehensive policy for the development of such systems and the effective integration of the various high-speed ground transportation technologies; and

“(D) minimizing the long-term risks of investors.

“(2) It is the policy of the United States to establish in the shortest time practicable a United States designed and constructed magnetic levitation transportation technology capable of operating along Federal-aid highway rights-of-way, as part of a national transportation system of the United States.”.

(b) **[49 U.S.C. 309 note] NATIONAL MAGNETIC LEVITATION PROTOTYPE DEVELOPMENT PROGRAM.**—

(1) **MANAGEMENT OF PROGRAM.**—There is hereby established a national magnetic levitation prototype development program to be managed by a program director appointed jointly by the Secretary and the Assistant Secretary of the Army for Civil Works (hereinafter in this subsection referred to as the “Assistant Secretary”). To carry out such program, the Secretary and the Assistant Secretary shall establish a national maglev joint project office (hereinafter in this subsection referred to as the “Maglev Project Office”), which shall be headed by the program director, and shall enter into such arrangements as may be necessary for funding, staffing, office space,

and other requirements that will allow the Maglev Project Office to carry out its functions. In carrying out such program, the program director shall consult with appropriate Federal officials, including the Secretary of Energy and the Administrator of the Environmental Protection Agency.

(2) PHASE ONE CONTRACTS.—

(A) REQUEST FOR PROPOSALS.—Not later than 12 months after the date of the enactment of this Act, the Maglev Project Office shall release a request for proposals for development of conceptual designs for a maglev system and for research to facilitate the development of such conceptual designs.

(B) AWARD OF CONTRACTS.—Not later than 15 months after the date of the enactment of this Act, the Secretary and the Assistant Secretary shall, based on the recommendations of the program director, award 1-year contracts for research and development to no fewer than 5 eligible applicants. If fewer than 5 complete applications have been received, contracts shall be awarded to as many eligible applicants as is practical.

(C) FACTORS AND CONDITIONS TO BE CONSIDERED.—The Secretary and the Assistant Secretary may approve contracts under subparagraph (B) only after consideration of factors relating to the construction and operation of a magnetic levitation system, including the cost-effectiveness, ease of maintenance, safety, limited environmental impact, ability to achieve sustained high speeds, ability to operate along the Interstate highway rights-of-way, the potential for the guideway design to be a national standard, the applicant's resources, capabilities, and history of successfully designing and developing systems of similar complexity, and the desirability of geographic diversity among contractors and only if the applicant agrees to submit a report to the Maglev Project Office detailing the results of the research and development and agrees to provide for matching of the phase one contract at a 90 percent Federal, 10 percent non-Federal, cost share.

(3) PHASE TWO CONTRACTS.—Within 3 months of receiving the final reports of contract activities under paragraph (2), and based only on such reports and the recommendations of the program director, the Secretary and the Assistant Secretary shall select not more than 3 eligible applicants from among the contract recipients submitting reports under paragraph (2) to receive 18-month contracts for research and development leading to a detailed design for a prototype maglev system. The Secretary and the Assistant Secretary may only award contracts under this paragraph if—

(A) they determine that the applicant has demonstrated technical merit for the conceptual design and the potential for further development of such design into an operational prototype as described in paragraph (4),

(B) the applicant agrees to submit the detailed design within such 18-month period to the Maglev Project Office and the selection committee described in paragraph (4), and

(C) the applicant agrees to provide for matching of the phase two contract at an 80 percent Federal, 20 percent non-Federal, cost share.

(4) PROTOTYPE.—

(A) SELECTION OF DESIGN.—Within 6 months of receiving the detailed designs developed under paragraph (3), the Secretary and the Assistant Secretary shall, based on the recommendations of the selection committee described in this subparagraph, select 1 design for development into a full-scale prototype, unless the Secretary and the Assistant Secretary determine jointly that no design shall be selected, based on an assessment of technical feasibility and projected cost of construction and operation of the prototype. A selection committee of 8 members, consisting of—

(i) 1 member to be appointed by the Secretary,

(ii) 1 member to be appointed by the Assistant Secretary,

(iii) 3 members to be appointed by the Senate majority and minority leaders, and

(iv) 3 members to be appointed by the Speaker of the House and the minority leader of the House, shall be appointed not later than 1 year following the award of contracts under paragraph (3). The selection committee, within 3 months of receiving the detailed designs developed under paragraph (3), shall make a recommendation to the Secretary and the Assistant Secretary as to the best prototype design or the unsuitability of any design. The program director shall provide technical reviews of the phase two contract reports to the selection committee and otherwise provide any technical assistance that the committee requires to assist it in making a recommendation. In the event that the Secretary and the Assistant Secretary determine jointly not to select a design for development under this subsection, they shall report to Congress on the basis for such determination, together with recommendations for future action, including further research, development, or design, termination of the program, or such other action as may be appropriate.

(B) AWARD OF CONSTRUCTION GRANT OR CONTRACT.—Unless the Secretary and the Assistant Secretary determine not to proceed pursuant to subparagraph (A), they shall, not later than 3 months after selection of a design for development into a full-scale prototype, and based on the recommendations of the program director, award 1 construction grant or contract to the applicant whose detailed design was selected under subparagraph (A) for the purpose of constructing a prototype maglev system in accordance with the selected design. Not more than 75 percent of the cost of the project shall be borne by the United States.

(C) FACTORS TO BE CONSIDERED IN SELECTION.—Selection of the detailed design under this paragraph shall be based on consideration of the following factors, among others:

(i) The project shall be capable of utilizing Interstate highway rights-of-way along or above a significant portion of its route, and may also use railroad rights-of-way along or above any portion of the railroad route.

(ii) The total length of guideway shall be at least 19 miles and allow significant full-speed operations between stops.

(iii) The project shall be constructed and ready for operational testing within 3 years after the award of the contract or grant.

(iv) The project shall provide for the conversion of the prototype to commercial operation after testing and technical evaluation is completed.

(v) The project shall be located in an area that provides a potential ridership base for future commercial operation.

(vi) The project shall utilize a technology capable of being applied in commercial service in most parts of the contiguous United States.

(vii) The project shall have at least 1 switch.

(viii) The project shall be intermodal in nature connecting a major metropolitan area with an airport, port, passenger rail station, or other transportation mode.

(D) ADDITIONAL FACTORS FOR CONSIDERATION.—In awarding a grant or contract under this paragraph, the Secretary shall encourage the development of domestic manufacturing capabilities. In selecting among eligible applicants, the Secretary shall consider existing railroads and equipment manufacturers with excess production capacity, including railroads that have experience in advanced technologies (including self-propelled cars).

(5) LICENSING.—

(A) PROPRIETARY RIGHTS.—No trade secrets or commercial or financial information that is privileged or confidential, under the meaning of section 552(b)(4) of title 5, United States Code, which is obtained from a United States business, research, or education entity as a result of activities under this subsection shall be disclosed.

(B) COMMERCIAL INFORMATION.—The research, development, and use of any technology developed pursuant to an agreement reached pursuant to this subsection, including the terms under which any technology may be licensed and the resulting royalties may be distributed, shall be subject to the provisions of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3701–3714). In addition, the Secretary and the Assistant Secretary may require any grant or contract recipient to assure that research and development be performed substantially in the United States and that the products embodying the inventions made under any agreement pursuant to this subsection or produced through the use of such inventions be manufactured substantially in the United States.

(6) **REPORTS.**—The Secretary and the Assistant Secretary shall provide periodic reports to Congress on progress made under this subsection.

(7) **ELIGIBLE APPLICANT DEFINED.**—For purposes of this subsection, the term “eligible applicant” means a United States private business, United States public or private education and research organization, Federal laboratory, or a consortium of such businesses, organizations, and laboratories.

* * * * *

(d) **FUNDING.**—

(1) **OUT OF HIGHWAY TRUST FUND.**—There shall be available from the Highway Trust Fund (other than the Mass Transit Account) the following sums:

(A) **NATIONAL MAGNETIC LEVITATION PROTOTYPE DEVELOPMENT PROGRAM.**—For the national magnetic levitation prototype development program under this section \$5,000,000 for fiscal year 1992, \$45,000,000 for fiscal year 1993, \$100,000,000 for fiscal year 1994, \$100,000,000 for fiscal year 1995, \$125,000,000 for fiscal year 1996, and \$125,000,000 for fiscal year 1997.

(B) **NATIONAL HIGH-SPEED GROUND TRANSPORTATION TECHNOLOGY DEMONSTRATION PROGRAM.**—For the national high-speed ground transportation technology demonstration program under section 309 of title 49, United States Code, \$5,000,000 for each of fiscal years 1993, 1994, 1995, 1996, and 1997.

(2) **OUT OF GENERAL FUND.**—In addition to amounts made available by paragraph (1), there is authorized to be appropriated for fiscal years 1992, 1993, 1994, 1995, 1996, and 1997—

(A) \$225,000,000 for the national magnetic levitation prototype development program under this section;

(B) \$25,000,000 for the national high-speed ground transportation technology demonstration program under section 309 of title 49, United States Code; and

(C) \$25,000,000 for national high-speed ground transportation research and development under section 309 of title 49, United States Code.

(3) **PERIOD OF AVAILABILITY.**—Funds made available by and under this section shall remain available until expended.

(4) **CONTRACT AUTHORITY.**—Notwithstanding any other provision of law, approval by the Secretary of a grant or contract with funds made available by paragraph (1) shall be deemed a contractual obligation of the United States for payment of the Federal share of the cost of the project.

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(f) **[45 U.S.C. 831 note] GENERAL ACCOUNTING OFFICE STUDY.**—The Comptroller General, within 2 years after the date of the enactment of this Act, shall analyze the effectiveness of the application of section 511 of the Railroad Revitalization and Regulatory Reform Act of 1976 to high-speed rail facilities and equipment, and report the results of such analysis to the Committee on Energy and Commerce of the House of Representatives and the

Committee on Commerce, Science, and Transportation of the Senate.

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TITLE VI—RESEARCH

PART A—PROGRAMS, STUDIES, AND ACTIVITIES

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SEC. 6007. [49 U.S.C. 111 note] ADVISORY COUNCIL ON TRANSPORTATION STATISTICS.

(a) **ESTABLISHMENT.**—The Director of the Bureau of Transportation Statistics shall establish an Advisory Council on Transportation Statistics.

(b) **FUNCTION.**—It shall be the function of the advisory council established under this section to advise the Director of the Bureau of Transportation Statistics on transportation statistics and analyses, including whether or not the statistics and analysis disseminated by the Bureau of Transportation Statistics are of high quality and are based upon the best available objective information.

(c) **MEMBERSHIP.**—The advisory council established under this section shall be composed of not more than 6 members appointed by the Director who are not officers or employees of the United States and who (except for 1 member who shall have expertise in economics and 1 member who shall have expertise in statistics) have expertise in transportation statistics and analysis.

(d) **APPLICABILITY OF FEDERAL ADVISORY COMMITTEE ACT.**—The Federal Advisory Committee Act shall apply to the advisory council established under this section, except that section 14 of the Federal Advisory Committee Act shall not apply to the Advisory Committee established under this section.

SEC. 6008. [49 U.S.C. 111 note] DOT DATA NEEDS.

(a) **STUDY.**—Not later than 1 year after the date of the establishment of the Bureau of Transportation Statistics, the Secretary shall enter into an agreement with the National Academy of Sciences to conduct a study on the adequacy of data collection procedures and capabilities of the Department of Transportation.

(b) **CONSULTATION.**—The Secretary shall enter into the agreement under subsection (a) in consultation with the Director of the Bureau of Transportation Statistics.

(c) **CONTENTS.**—The study under subsection (a) shall include an evaluation of the Department of Transportation’s data collection resources, needs, and requirements and an assessment and evaluation of the systems, capabilities, and procedures established by the Department to meet such needs and requirements, including the following:

- (1) Data collection procedures and capabilities.
- (2) Data analysis procedures and capabilities.
- (3) Ability of data bases to integrate with one another.
- (4) Computer hardware and software capabilities.

(5) Information management systems, including the ability of information management systems to integrate with one another.

(6) Availability and training of the personnel of the Department.

(7) Budgetary needs and resources of the Department for data collection.

(d) REPORT.—Not later than 18 months after the date of the agreement under subsection (a), the National Academy of Sciences shall transmit to Congress a report on the results of the study under this section, including recommendations for improving the Department of Transportation's data collection systems, capabilities, procedures, and analytical hardware and software and recommendations for improving the Department's management information systems.

SEC. 6009. SURFACE TRANSPORTATION RESEARCH AND DEVELOPMENT PLANNING.

(a) FINDINGS.—Congress finds that—

(1) despite an annual expenditure in excess of \$10,000,000,000 on surface transportation and its infrastructure, the Federal Government has not developed a clear vision of—

(A) how the surface transportation systems of the 21st century will differ from the present;

(B) how they will interface with each other and with other forms of transportation;

(C) how such systems will adjust to changing American population patterns and lifestyles; and

(D) the role of federally funded research and development in ensuring that appropriate transportation systems are developed and implemented;

(2) the population of the United States is projected to increase by over 30,000,000 people within the next 20 years, mostly in existing major metropolitan areas, which will result in increased traffic congestion within and between urban areas, more accidents, loss of productive time, and increased cost of transportation unless new technologies are developed to improve public transportation within cities and to move people and goods between cities;

(3) 18,000,000 crashes, 4,000,000 injuries, and 45,000 fatalities each year on the Nation's highways are intolerable and substantial research is required in order to develop safer technologies in their most useful and economic forms;

(4) current research and development funding for surface transportation is insufficient to provide the United States with the technologies essential to providing its own advanced transportation systems in the future and, as a result, the United States is becoming increasingly dependent on foreign surface transportation technologies and equipment to meet its expanding surface transportation needs;

(5) a more active, focused surface transportation research and development program involving cooperation among the Federal Government, United States based industry, and United States universities should be organized on a priority basis;

(6) intelligent transportation systems represent the best near-term technology for improving surface transportation for public benefit by providing equipment which can improve traffic flow and provide for enhanced safety;

(7) research and development programs related to surface transportation are fragmented and dispersed throughout government and need to be strengthened and incorporated in an integrated framework within which a consensus on the goals of a national surface transportation research and development program must be developed;

(8) the inability of government agencies to cooperate effectively, the difficulty of obtaining public support for new systems and rights-of-way, and the high cost of capital financing discourage private firms from investing in the development of new transportation equipment and systems; therefore, the Federal Government should sponsor and coordinate research and development of new technologies to provide safer, more convenient, and affordable transportation systems for use in the future; and

(9) an effective high technology applied research and development program should be implemented quickly by strengthening the Department of Transportation research and development staff and by contracting with private industry for specific development projects.

(b) SURFACE TRANSPORTATION RESEARCH AND DEVELOPMENT PLAN.—

(1) DEVELOPMENT.—The Secretary shall develop an integrated national surface transportation research and development plan (hereinafter in this subsection referred to as the “plan”).

(2) FOCUS.—The plan shall focus on surface transportation systems needed for urban, suburban, and rural areas in the next decade.

(3) CONTENTS.—The plan shall include the following:

(A) Details of the Department’s surface transportation research and development programs, including appropriate funding levels and a schedule with milestones, preliminary cost estimates, appropriate work scopes, personnel requirements, and estimated costs and goals for the next 3 years for each area of research and development.

(B) A 10-year projection of long-term programs in surface transportation research and development and recommendations for the appropriate source or mechanism for surface transportation research and development funding, taking into account recommendations of the Research and Development Coordinating Council of the Department of Transportation and the plan of the National Council on Surface Transportation Research.

(C) Recommendations on changes needed to assure that Federal, State, and local contracting procedures encourage the adoption of advanced technologies developed as a consequence of the research programs in this Act.

(4) OBJECTIVES.—The plan shall provide for the following:

(A) The development, within the shortest period of time possible, of a range of technologies needed to produce

convenient, safe, and affordable modes of surface transportation to be available for public use beginning in the mid-1990's.

(B) Maintenance of a long-term advanced research and development program to provide for next generation surface transportation systems.

(5) COOPERATION WITH INDUSTRY.—A primary component of the plan shall be cooperation with industry in carrying out this part and strengthening the manufacturing capabilities of United States firms in order to produce products for surface transportation systems.

(6) CONFORMANCE WITH PLAN.—All surface transportation research and development within the Department of Transportation shall be included in the plan and shall be evaluated in accordance with the plan.

(7) COORDINATION.—In developing the plan and carrying out this part, the Secretary shall consult with and, where appropriate, use the expertise of other Federal agencies and their laboratories.

(8) TRANSMITTAL.—On or before January 15, 1993, and annually thereafter, the Secretary shall transmit the plan to Congress, together with the Secretary's comments and recommendations. The Secretary shall review and update the plan before each transmittal under this paragraph.

(9) RECOMMENDATIONS FOR ALTERNATIVES.—In the event a different technology or alternative program can be identified that would accomplish the same or better results than those described in this part, the Secretary may make recommendations for an alternative, and shall promptly report such alternative recommendations to Congress.

SEC. 6010. NATIONAL COUNCIL ON SURFACE TRANSPORTATION RESEARCH.

(a) ESTABLISHMENT.—There is established a National Council on Surface Transportation Research (hereinafter in this section referred to as the "Council").

(b) FUNCTION.—The Council shall make a complete investigation and study of current surface transportation research and technology developments in the United States and internationally. The Council shall identify gaps and duplication in current surface transportation research efforts, determine research and development areas which may increase efficiency, productivity, safety, and durability in the Nation's surface transportation systems, and propose a national surface transportation research and development plan for immediate implementation.

(c) SPECIFIC MATTERS TO BE ADDRESSED.—The Council shall—

(1) survey current surface transportation public and private research efforts in the United States and internationally;

(2) examine factors which lead to fragmentation of surface transportation research efforts and determine how increased coordination in such efforts may be achieved;

(3) compare the role of the Federal Government with the role of foreign governments in promoting transportation research and evaluate the appropriateness of United States policy on government-sponsored surface transportation research;

(4) identify barriers to innovation in surface transportation systems;

(5) examine the range of funding arrangements available for surface transportation research and development and the level of resources currently available for such purposes; and

(6) identify surface transportation research areas and opportunities, including opportunities for international cooperation offering potential benefit to the Nation's surface transportation system, assess the relative priority of such research areas and plans, and develop a plan for national surface transportation research and development which includes short-range and long-range objectives.

(d) MEMBERSHIP.—

(1) APPOINTMENT.—The Council shall be composed of 7 members as follows:

(A) Three members appointed by the President.

(B) One member appointed by the Speaker of the House of Representatives.

(C) One member appointed by the minority leader of the House of Representatives.

(D) One member appointed by the majority leader of the Senate.

(E) One member appointed by the minority leader of the Senate.

(2) QUALIFICATIONS.—

(A) IN GENERAL.—Members appointed pursuant to paragraph (1) shall be appointed from among individuals involved in surface transportation research, including representatives of Federal, State, and local governments, other public agencies, colleges and universities, public, private, and nonprofit research organizations, and organizations representing transportation providers, shippers, labor, and the financial community.

(B) INTERNATIONAL ADVISOR.—One of the members appointed by the President pursuant to paragraph (1)(A) shall serve as an international research advisor for the Council.

(3) TERMS.—Members shall be appointed for the life of the Council.

(4) VACANCIES.—A vacancy in the Council shall be filled in the manner in which the original appointment was made.

(5) TRAVEL EXPENSES.—Members shall serve without pay but shall receive travel expenses, including per diem in lieu of subsistence, in accordance with sections 5702 and 5703 of title 5, United States Code.

(6) CHAIRMAN.—The Chairman of the Council shall be elected by the members.

(e) STAFF.—The Council may appoint and fix the pay of such personnel as it considers appropriate.

(f) STAFF OF FEDERAL AGENCIES.—Upon request of the Council, the head of any department or agency of the United States may detail, on a reimbursable basis, any of the personnel of that department or agency to the Council to assist it in carrying out its duties under this section.

(g) ADMINISTRATIVE SUPPORT SERVICES.—Upon the request of the Council, the Administrator of General Services shall provide to the Council, on a reimbursable basis, the administrative support services necessary for the Council to carry out its responsibilities under this section.

(h) OBTAINING OFFICIAL DATA.—The Council may secure directly from any department or agency of the United States information necessary for it to carry out its duties under this section. Upon request of the Council, the head of that department or agency shall furnish that information to the Council.

(i) REPORT.—Not later than September 30, 1993, the Council shall transmit to Congress a final report on the results of the investigation and study conducted under this section. The report shall include recommendations of the Council, including a proposed national surface transportation research plan for immediate implementation.

(j) TERMINATION.—The Council shall terminate on the 180th day following the date of transmittal of the report under subsection (i). All records and papers of the Council shall thereupon be delivered to the Administrator of General Services for deposit in the National Archives.

SEC. 6011. RESEARCH ADVISORY COMMITTEE.

(a) ESTABLISHMENT.—Not later than 180 days after the date of transmittal of the report to Congress under section 6010, the Secretary shall establish an independent surface transportation research advisory committee (hereinafter in this section referred to as the “advisory committee”).

(b) PURPOSES.—The advisory committee shall provide ongoing advice and recommendations to the Secretary regarding needs, objectives, plans, approaches, content, and accomplishments with respect to short-term and long-term surface transportation research and development. The advisory committee shall also assist in ensuring that such research and development is coordinated with similar research and development being conducted outside of the Department of Transportation.

(c) MEMBERSHIP.—The advisory committee shall be composed of not less than 20 and not more than 30 members appointed by the Secretary from among individuals who are not employees of the Department of Transportation and who are specially qualified to serve on the advisory committee by virtue of their education, training, or experience. A majority of the members of the advisory committee shall be individuals with experience in conducting surface transportation research and development. The Secretary in appointing the members of the advisory committee shall ensure that representatives of Federal, State, and local governments, other public agencies, colleges and universities, public, private, and non-profit research organizations, and organizations representing transportation providers, shippers, labor, and the financial community are represented on an equitable basis.

(d) CHAIRMAN.—The chairman of the advisory committee shall be designated by the Secretary.

(e) PAY AND EXPENSES.—Members of the advisory committee shall serve without pay, except that the Secretary may allow any member, while engaged in the business of the advisory committee

or a subordinate committee, travel expenses, including per diem in lieu of subsistence, in accordance with sections 5702 and 5703 of title 5, United States Code.

(f) **SUBORDINATE COMMITTEES.**—The Secretary shall establish a subordinate committee to the advisory committee to provide advice on advanced highway vehicle technology research and development, and may establish other subordinate committees to provide advice on specific areas of surface transportation research and development. Such subordinate committees shall be subject to subsections (e), (g), and (i) of this section.

(g) **ASSISTANCE OF SECRETARY.**—Upon request of the advisory committee, the Secretary shall provide such information, administrative services, support staff, and supplies as the Secretary determines to be necessary for the advisory committee to carry out its functions.

(h) **REPORTS.**—The advisory committee shall, within 1 year after the date of establishment of the advisory committee, and annually thereafter, submit to the Congress a report summarizing its activities under this section.

(i) **TERMINATION.**—Section 14 of the Federal Advisory Committee Act shall not apply to the advisory committee established under this section.

SEC. 6012. [23 U.S.C. 101 note] COMMEMORATION OF DWIGHT D. EISENHOWER NATIONAL SYSTEM OF INTERSTATE AND DEFENSE HIGHWAYS.

(a) **STUDY.**—The Secretary shall conduct a study to determine an appropriate symbol or emblem to be placed on highway signs referring to the Interstate System to commemorate the vision of President Dwight D. Eisenhower in creating the Dwight D. Eisenhower National System of Interstate and Defense Highways.

(b) **REPORT.**—Not later than 1 year after the date of the enactment of this Act, the Secretary shall transmit to Congress a report on the results of the study under this section.

SEC. 6013. STATE LEVEL OF EFFORT.

(a) **STUDY.**—Not later than 3 months after the date of the enactment of this Act, the Secretary and the Director of the Bureau of Transportation Statistics shall begin a comprehensive study of the most appropriate and accurate methods of calculating State level of effort in funding surface transportation programs.

(b) **CONTENTS.**—The study under subsection (a) shall include collection of data relating to State and local revenues collected and spent on surface transportation programs. Such revenues include income from fuel taxes, toll revenues (including bridge, tunnel, and ferry tolls), sales taxes, general fund appropriations, property taxes, bonds, administrative fees, taxes on commercial vehicles, and such other State and local revenue sources as the Director of the Bureau considers appropriate.

(c) **REPORT.**—Not later than 9 months after the date of the enactment of this Act, the Secretary and the Director of the Bureau shall transmit to the Committee on Environment and Public Works of the Senate and the Committee on Public Works and Transportation of the House of Representatives a report on the results of the study under this section, including recommendations on the most appropriate measure of State level of effort in funding surface

transportation programs and comprehensive data, by State, on revenue sources and amounts collected by States and local governments and devoted to surface transportation programs.

SEC. 6014. EVALUATION OF STATE PROCUREMENT PRACTICES.

(a) **STUDY.**—The Secretary shall conduct a study to evaluate whether or not current procurement practices of State departments and agencies, including statistical acceptance procedures, are adequate to ensure that highway and transit systems are designed, constructed, and maintained so as to achieve a high quality for such systems at the lowest overall cost.

(b) **REPORT.**—Not later than 2 years after the date of the enactment of this Act, the Secretary shall transmit to the Committee on Public Works and Transportation of the House of Representatives and the Committee on Environment and Public Works of the Senate a report on the results of the study conducted under this section, together with an assessment of the need for establishing a national policy on transportation quality assurance and recommendations for appropriate legislative and administrative actions.

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SEC. 6016. FUNDAMENTAL PROPERTIES OF ASPHALTS AND MODIFIED ASPHALTS.

(a) **STUDIES.**—The Administrator of the Federal Highway Administration (hereinafter in this section referred to as the “Administrator”) shall conduct studies of the fundamental chemical property and physical property of petroleum asphalts and modified asphalts used in highway construction in the United States. Such studies shall emphasize predicting pavement performance from the fundamental and rapidly measurable properties of asphalts and modified asphalts.

(b) **CONTRACTS.**—To carry out the studies under subsection (a), the Administrator shall enter into contracts with the Western Research Institute of the University of Wyoming in order to conduct the necessary technical and analytical research in coordination with existing programs which evaluate actual performance of asphalts and modified asphalts in roadways, including the Strategic Highway Research Program.

(c) **ACTIVITIES OF STUDIES.**—The studies under subsection (a) shall include the following activities:

- (1) Fundamental composition studies.
- (2) Fundamental physical and rheological property studies.
- (3) Asphalt-aggregate interaction studies.
- (4) Coordination of composition studies, physical and rheological property studies, and asphalt-aggregate interaction studies for the purposes of predicting pavement performance, including refinements of Strategic Highway Research Program specifications.

(d) **TEST STRIP.**—

(1) **IMPLEMENTATION.**—The Administrator, in coordination with the Western Research Institute of the University of Wyoming, shall implement a test strip for the purpose of demonstrating and evaluating the unique energy and environmental advantages of using shale oil modified asphalts under extreme climatic conditions.

(2) FUNDING.—For the purposes of construction activities related to this test strip, the Secretary and the Director of the National Park Service shall make up to \$1,000,000 available from amounts made available from the authorization for parkroads and parkways.

(3) REPORT TO CONGRESS.—Not later than November 30, 1995, the Administrator shall transmit to Congress as part of a report under subsection (e) the Administrator’s findings on activities conducted under this subsection, including an evaluation of the test strip implemented under this subsection and recommendations for legislation to establish a national program to support United States transportation and energy security requirements.

(e) ANNUAL REPORT TO CONGRESS.—Not later than 180 days after the date of the enactment of this Act, and on or before November 30th of each year beginning thereafter, the Administrator shall transmit to Congress a report of the progress made in implementing this section.

(f) AUTHORIZATION OF APPROPRIATIONS.—The Secretary shall expend from administrative and research funds deducted under section 104(a) of this title at least \$3,000,000 for each of fiscal years 1992, 1993, 1994, 1995, and 1996 to carry out subsection (b).

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SEC. 6019. ADVANCED AUTOMOTIVE CONFERENCE AND AWARD.¹

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[Section 6020 repealed by section 7(3) of P.L. 104–287 (110 Stat. 3400).]

* * * * *

[Part B repealed by section 5213 of P.L. 105–178 (112 Stat. 463).]

PART C—ADVANCED TRANSPORTATION SYSTEMS AND ELECTRIC VEHICLES

SEC. 6071. ADVANCED TRANSPORTATION SYSTEM AND ELECTRIC VEHICLE RESEARCH AND DEVELOPMENT CONSORTIA.

(a) GENERAL AUTHORITY.—

(1) PROPOSAL.—Not later than 3 months after the date of the enactment of this Act, an eligible consortium may submit to the Secretary a proposal for receiving grants made available under this section for electric vehicle and advanced transportation research and development.

(2) CONTENTS OF PROPOSAL.—A proposal submitted under paragraph (1) shall include—

(A) a description of the eligible consortium making the proposal;

(B) a description of the type of additional members targeted for inclusion in the consortium;

(C) a description of the eligible consortium’s ability to contribute significantly to the development of vehicles,

¹This section added sections 18 and 19 to Stevenson-Wydler Technology Innovation Act of 1980, which appears elsewhere in this compilation.

transportation systems, or related subsystems and equipment, that are competitive in the commercial market and its ability to enable serial production processes;

(D) a description of the eligible consortium's financing scheme and business plan, including any projected contributions of State and local governments and other parties;

(E) assurances, by letter of credit or other acceptable means, that the eligible consortium is able to meet the requirement contained in subsection (b)(6); and

(F) any other information the Secretary requires in order to make selections under this section.

(3) GRANT AUTHORITY.—Except as provided in paragraph (4), not later than 6 months after the date of the enactment of this Act, the Secretary shall award grants to not less than 3 eligible consortia. No one eligible consortium may receive more than one-third of the funds made available for grants under this section.

(4) EXTENSION.—If fewer than 3 complete applications from eligible consortia have been received in time to permit the awarding of grants under paragraph (3), the Secretary may extend the deadlines for the submission of applications and the awarding of grants.

(b) ELIGIBILITY CRITERIA.—To be qualified to receive assistance under this section, an eligible consortium shall—

(1) be organized for the purpose of designing and developing electric vehicles and advanced transportation systems, or related systems or equipment, or for the purpose of enabling serial production processes;

(2) facilitate the participation in the consortium of small- and medium-sized businesses in conjunction with large established manufacturers, as appropriate;

(3) to the extent practicable, include participation in the consortium of defense and aerospace suppliers and manufacturers;

(4) to the extent practicable, include participation in the consortium of entities located in areas designated as nonattainment areas under the Clean Air Act;

(5) be designed to use State and Federal funding to attract private capital in the form of grants or investments to further the purposes stated in paragraph (1); and

(6) ensure that at least 50 percent of the costs of the consortium, subject to the requirements of subsection (a)(3), be provided by non-Federal sources.

(c) SERVICES.—Services to be performed by an eligible consortium using amounts from grants made available under this part shall include—

(1) obtaining funding for the acquisition of plant sites, conversion of plant facilities, and acquisition of equipment for the development or manufacture of advanced transportation systems or electric vehicles, or other related systems or equipment, especially for environmentally benign and cost-effective manufacturing processes;

(2) obtaining low-cost, long-term loans or investments for the purposes described in paragraph (1);

(3) recruiting and training individuals for electric vehicle- and transit-related technical design, manufacture, conversion, and maintenance;

conducting marketing surveys for services provided by the consortium;

(5) creating electronic access to an inventory of industry suppliers and serving as a clearinghouse for such information;

(6) consulting with respect to applicable or proposed Federal motor vehicle safety standards;

(7) creating access to computer architecture needed to simulate crash testing and to design internal subsystems and related infrastructure for electric vehicles and advanced transportation systems to meet applicable standards; and

(8) creating access to computer protocols that are compatible with larger manufacturers' systems to enable small- and medium-sized suppliers to compete for contracts for advanced transportation systems and electric vehicles and other related systems and equipment.

SEC. 6072. DEFINITIONS.

For purposes of this part, the following definitions apply:

(1) **ADVANCED TRANSPORTATION SYSTEM.**—The term “advanced transportation system” means a system of mass transportation, such as an electric trolley bus or alternative fuels bus, which employs advanced technology in order to function cleanly and efficiently;

(2) **ELECTRIC VEHICLE.**—The term “electric vehicle” means a passenger vehicle, such as a van, primarily powered by an electric motor that draws current from rechargeable storage batteries, fuel cells, or other sources of electrical current, and that may include a nonelectrical source of supplemental power; and

(3) **ELIGIBLE CONSORTIUM.**—The term “eligible consortium” means a consortium of—

(A) businesses incorporated in the United States;

(B) public or private educational or research organizations located in the United States;

(C) entities of State or local governments in the United States; or

(D) Federal laboratories.

SEC. 6073. FUNDING.

Funds shall be made available to carry out this part as provided in section 21(b)(3)(E) of the Federal Transit Act.

* * * * *

ENERGY POLICY ACT OF 1992

AN ACT To provide for improved energy efficiency.

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

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the “Energy Policy Act of 1992”.

* * * * *

TITLE VI—ELECTRIC MOTOR VEHICLES

SEC. 601. [42 U.S.C. 13271] DEFINITIONS.

For the purposes of this title—

(1) the term “antitrust laws” means the Acts set forth in section 1 of the Clayton Act (15 U.S.C. 12);

(2) the term “associated equipment” means equipment necessary for the regeneration, refueling, or recharging of batteries or other forms of electric energy used to power an electric motor vehicle and, in the case of electric-hybrid vehicles, such term includes nonpetroleum-related equipment necessary for, and solely related to, the demonstration of such vehicles;

(3) the term “discount payment” means the amount determined pursuant to section 613 of this title;

(4) the term “electric motor vehicle” means a motor vehicle primarily powered by an electric motor that draws current from rechargeable storage batteries, fuel cells, photovoltaic arrays, or other sources of electric current and may include an electric-hybrid vehicle;

(5) the term “electric-hybrid vehicle” means a vehicle primarily powered by an electric motor that draws current from rechargeable storage batteries, fuel cells, or other source of electric current and also relies on a non-electric source of power;

(6) the term “eligible metropolitan area” means any Metropolitan Area (as such term is defined by the Office of Management and Budget pursuant to section 3504 of title 44, United States Code) with a 1980 population of 250,000 or more that has been designated by a proposer and the Secretary for a demonstration project under this title, except that the Secretary may designate an area with a 1990 population of 50,000 or more as an eligible metropolitan area;

(7) the term “infrastructure and support systems” includes support and maintenance services and facilities, electricity delivery mechanisms and methods, regulatory treatment of investment in electric motor vehicles and associated equipment, consumer education programs, safety and health procedures, and battery availability, replacement, recycling, and disposal, that may be required to enable electric utilities, manufacturers, and others to support the operation and maintenance of electric motor vehicles and associated equipment;

(8) the term “motor vehicle” has the meaning given such term under section 216(2) of the Clean Air Act (42 U.S.C. 7550(2));

(9) the term “non-Federal person” means an entity not part of the Federal Government that is either—

(A) organized under the laws of the United States or the laws of a State of the United States; or

(B) a unit of State or local government;

(10) the term “proposer” means a non-Federal person that submits a proposal to conduct a demonstration project under this title;

(11) the term “price differential” means—

(A) in the case of a purchased electric motor vehicle, the difference between the manufacturer’s suggested retail price of such electric motor vehicle and the manufacturer’s suggested retail price of a comparable conventionally fueled motor vehicle; and

(B) in the case of a leased electric motor vehicle, the difference between the monthly lease payment of such electric motor vehicle over the life of the lease and the monthly lease payment of a comparable conventionally fueled motor vehicle over the life of the lease; and

(12) the term “user” means a person or entity that purchases or leases an electric motor vehicle.

Subtitle A—Electric Motor Vehicle Commercial Demonstration Program

SEC. 611. [42 U.S.C. 13281] PROGRAM AND SOLICITATION.

(a) PROGRAM.—The Secretary shall conduct a program to demonstrate electric motor vehicles and the associated equipment of such vehicles, in consultation with the Electric and Hybrid Vehicle Program Site Operators, manufacturers, the electric utility industry, and such other persons as the Secretary considers appropriate. Such program shall be—

(1) designed to accelerate the development and use of electric motor vehicles; and

(2) structured to evaluate the performance of such electric motor vehicles in field operation, including fleet operation, and evaluate the necessary supporting infrastructure.

(b) SOLICITATION.—(1) Not later than 18 months after the date of enactment of this Act, the Secretary shall solicit proposals to demonstrate electric motor vehicles and associated equipment in one or more eligible metropolitan areas. The Secretary may make

additional solicitations for proposals if the Secretary determines that such solicitations are necessary to carry out this subtitle.

(2)(A) Solicitations for proposals under this subsection shall require the proposer to include a description, including the manufacturer or manufacturers of the electric motor vehicles; the proposed users of the electric motor vehicles; the eligible metropolitan area or areas involved; the number of electric motor vehicles to be demonstrated and their type, characteristics, and life-cycle costs; the price differential; the proposed discount payment; the contributions of State or local governments and other persons to the demonstration project; the type of associated equipment to be demonstrated; the domestic content of the electric motor vehicles and associated equipment; and any other information the Secretary considers appropriate.

(B) If the proposal includes a lease arrangement, the proposal shall indicate the terms of such lease arrangement for the electric motor vehicles or associated equipment.

(3) The solicitation for proposals under this subsection shall establish a closing date for receipt of proposals. The Secretary may, if necessary, extend the closing date for receipt of proposals for a period not to exceed 90 days.

SEC. 612. [42 U.S.C. 13282] SELECTION OF PROPOSALS.

(a) SELECTION.—(1) The Secretary, in consultation with the Secretary of Transportation, the Secretary of Commerce, and the Administrator of the Environmental Protection Agency, shall, not later than 120 days after the closing date, as established by the Secretary, for receipt of proposals under section 611, select at least one, but not more than 10, proposals to receive financial assistance under section 613.

(2) The Secretary may select more than 10 proposals under this section, if the Secretary determines that the total amount of available funds is not likely to be otherwise utilized.

(3) Any proposal selected under paragraph (1) must satisfy the limitations set forth in section 613(c).

(4) No one project selected under this section shall receive more than 25 percent of the funds authorized under section 616.

(5) A demonstration project may not include electric motor vehicles in more than one eligible metropolitan area, unless the total number of electric motor vehicles in that project is equal to, or greater than, 100.

(b) CRITERIA.—In selecting a proposal and in negotiating financial assistance under this section, the Secretary shall consider—

(1) the ability of the manufacturer, directly, indirectly, or in combination with the proposer, to develop, assist in the demonstration of, manufacture, distribute, sell, provide warranties for, service, and ensure the continued availability of parts for, electric motor vehicles in the demonstration project;

(2) the geographic and climatic diversity of the eligible metropolitan area or areas in which the demonstration project is to be undertaken, when considered in combination with other proposals and other selected demonstration projects;

(3) the long-term technical and competitive viability of the electric motor vehicles;

- (4) the suitability of the electric motor vehicles for their intended uses;
- (5) the environmental effects of the use of the proposed electric motor vehicles;
- (6) the price differential and the proposed discount payment;
- (7) the extent of involvement of State or local government and other persons in the demonstration project, and whether such involvement will—
 - (A) permit a reduction of the Federal cost share per vehicle; or
 - (B) otherwise be used to allow the Federal contribution to be provided for a greater number of electric motor vehicles;
- (8) the proportion of domestic content of the electric motor vehicles and associated equipment;
- (9) the safety of the electric motor vehicles; and
- (10) such other criteria as the Secretary considers appropriate.

(c) **CONDITIONS.**—The Secretary shall require that—

- (1) as a part of a demonstration project, the user or users of the electric motor vehicles will provide to the proposer and the manufacturer information regarding the operation, maintenance, performance, and use of the electric motor vehicles for 5 years after the beginning of the demonstration project;
- (2) the proposer shall provide to the Secretary such information regarding the operation, maintenance, performance, and use of the electric motor vehicles as the Secretary may request during the period of the demonstration project;
- (3) in the case of a demonstration project including automobiles or light duty trucks, the number of electric motor vehicles to be included in the demonstration project shall be no less than 50, except that the Secretary may select a demonstration project with fewer than 50 electric motor vehicles if the Secretary determines that selection of such a proposal will ensure that there is geographic or climatic diversity among the proposals selected and that an adequate demonstration to accelerate the development and use of electric motor vehicles can be undertaken with fewer than 50 electric motor vehicles; and
- (4) the procurement practices of the manufacturer do not discriminate against United States producers of vehicle parts.

SEC. 613. [42 U.S.C. 13283] DISCOUNT PAYMENTS.

(a) **CERTIFICATION.**—The Secretary shall provide a discount payment to a proposer of a proposal selected under this subtitle for purposes of reimbursing the proposer for a discount provided to the users if the proposer certifies to the Secretary that—

(1) the electric motor vehicles have been purchased or leased by a user or users in accordance with the requirements of this subtitle; and

(2) the proposer has provided to the user or users a discount payment in accordance with the requirements of this subtitle.

(b) **PAYMENT.**—Not later than 30 days after receipt from the proposer of certification that the Secretary determines satisfies the

requirements of subsection (a), the Secretary shall pay to the proposer the full amount of the discount payment, to the extent provided in advance in appropriations Acts.

(c) CALCULATIONS OF DISCOUNT PAYMENTS.—(1) The discount payment shall be no greater than—

(A) the price differential; or

(B) the price of the comparable conventionally fueled motor vehicle.

(2) The purchase price of the electric motor vehicle, less the discount payment and less any additional reduction in the purchase price of the electric motor vehicle that may result from contributions provided by other parties, may not be less than the manufacturer's suggested retail price of a comparable conventionally fueled motor vehicle.

(3) The maximum discount payment shall be no greater than \$10,000 per electric motor vehicle.

SEC. 614. [42 U.S.C. 13284] COST-SHARING.

(a) REQUIREMENT.—The Secretary shall require at least 50 percent of the costs directly and specifically related to any project under this subtitle to be from non-Federal sources. Such share may be in the form of cash, personnel, services, equipment, and other resources.

(b) REDUCTION.—The Secretary may reduce the amount of costs required to be provided by non-Federal sources under subsection (a) if the Secretary determines that the reduction is necessary and appropriate—

(1) considering the technological risks involved in the project; and

(2) in order to meet the objectives of this subtitle.

SEC. 615. [42 U.S.C. 13285] REPORTS TO CONGRESS.

(a) PROGRESS REPORTS.—The Secretary shall report annually to Congress on the progress being made, through demonstration projects supported under this subtitle, to accelerate the development and use of electric motor vehicles.

(b) REPORT ON ENCOURAGING THE PURCHASE AND USE OF ELECTRIC MOTOR VEHICLES.—Within 18 months after the date of enactment of this Act, the Secretary shall submit to the Congress a report on methods for encouraging the purchase and use of electric motor vehicles. Such report shall—

(1) address the potential cost of purchasing and maintaining electric motor vehicles, including the initial cost of the batteries and the cost of replacement batteries;

(2) identify methods for reducing, subsidizing, or sharing such costs; and

(3) include recommendations for legislative and administrative measures to encourage the purchase and use of electric motor vehicles.

SEC. 616. [42 U.S.C. 13286] AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to the Secretary for purposes of this subtitle \$50,000,000 for the 10-year period beginning with the first full fiscal year after the date of enactment of this Act, to remain available until expended.

Subtitle B—Electric Motor Vehicle Infrastructure and Support Systems Development Program

SEC. 621. [42 U.S.C. 13291] GENERAL AUTHORITY.

(a) PROGRAM.—The Secretary shall undertake a program with one or more non-Federal persons, including fleet operators, for cost-shared research, development, demonstration, or commercial application of an infrastructure and support systems program.

(b) ELIGIBILITY.—A non-Federal person shall be eligible to receive financial assistance under this subtitle only if such person demonstrates, to the satisfaction of the Secretary, that the person will conduct a substantial portion of activities under the project in the United States using domestic labor and materials.

(c) COORDINATION.—Activities under this subtitle shall be coordinated with activities under subtitle A.

SEC. 622. [42 U.S.C. 13292] PROPOSALS.

(a) SOLICITATION.—Not later than one year after the date of enactment of this Act, the Secretary shall solicit proposals from non-Federal persons, including fleet operators, for projects under this subtitle. Within 240 days after proposals have been solicited, the Secretary shall select proposals.

(b) CRITERIA.—(1) The Secretary shall provide financial assistance to no more than 10 projects under this subtitle, unless the Secretary determines that the total amount of available funds is not likely to be otherwise used.

(2) The proposals selected by the Secretary shall, to the extent practicable, represent geographically and climatically diverse regions of the United States.

(3) The aggregate Federal financial assistance for each project under this subtitle may not exceed \$4,000,000.

(c) PROJECTS.—The infrastructure and support systems programs for which projects are selected under this subtitle may address—

(1) the ability to service electric motor vehicles and to provide or service associated equipment;

(2) the installation of charging facilities;

(3) rates and cost recovery for electric utilities who invest in infrastructure capital-related expenditures;

(4) the development of safety and health procedures and guidelines related to battery charging, watering, and emissions;

(5) the conduct of information dissemination programs; and

(6) such other subjects as the Secretary considers necessary in order to address the infrastructure and support systems needed to support the development and use of energy storage technologies, including advanced batteries, and the demonstration of electric motor vehicles.

SEC. 623. [42 U.S.C. 13293] PROTECTION OF PROPRIETARY INFORMATION.

(a) IN GENERAL.—In the case of activities, including joint venture activities, under this title, and in the case of any existing or

future activities, including joint venture activities, related primarily to battery technology for electric motor vehicles under other provisions of law, where the knowledge resulting from research and development activities conducted pursuant to such activities, including joint venture activities, is for the benefit of the participants (particularly domestic companies) that provide financial resources to a project under this title, the Secretary, for a period of up to 5 years after the development of information that—

(1) results from research and development activities conducted under this title; and

(2) would be a trade secret or commercial or financial information that is privileged or confidential if the information had been obtained from a participant,

shall, notwithstanding any other provision of law, provide appropriate protections against the dissemination of such information to the public, and the provisions of section 1905 of title 18, United States Code, shall apply to such information. Nothing in this subsection provides protections against the dissemination of such information to Congress.

(b) DEFINITION.—For purposes of subsection (a), the term “domestic companies” means entities which are substantially involved in the United States in the domestic production of motor vehicles for sale in the United States and have a substantial percentage of their production facilities in the United States.

SEC. 624. [42 U.S.C. 13294] COMPLIANCE WITH EXISTING LAW.

Nothing in this title shall be deemed to convey to any person, partnership, corporation, or other entity, immunity from civil or criminal liability under any antitrust law or to create defenses to actions under any antitrust law.

[Section 625 repealed by section 401(b) of Pub. L. 105–362, 112 Stat. 3282.]

SEC. 626. [42 U.S.C. 13296] AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to the Secretary for purposes of this subtitle \$40,000,000 for the 5-year period beginning with the first full fiscal year after the date of enactment of this Act, to remain available until expended.

* * * * *

TITLE XII—RENEWABLE ENERGY

SEC. 1201. PURPOSES.

The purposes of this title are to promote—

(1) increases in the production and utilization of energy from renewable energy resources;

(2) further advances of renewable energy technologies; and

(3) exports of United States renewable energy technologies and services.

* * * * *

SEC. 1203. [42 U.S.C. 13312] RENEWABLE ENERGY EXPORT TECHNOLOGY TRAINING.

(a) ESTABLISHMENT OF PROGRAM.—The Secretary, through the Agency for International Development, shall establish a program

for the training of individuals from developing countries in the operation and maintenance of renewable energy and energy efficiency technologies in accordance with this section. The Secretary and the Administrator of the Agency for International Development shall, within one year after the date of enactment of this Act, enter into a written agreement to carry out this program.

(b) PURPOSE.—The purpose of the program established under this section shall be to train appropriate persons in the system design, operation, and maintenance of renewable energy and energy efficiency equipment manufactured in the United States, including equipment for water pumping, heating and purification, and the production of electric power in remote areas.

(c) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary \$6,000,000 for each of the fiscal years 1994, 1995, and 1996, to carry out this section.

SEC. 1204. [42 U.S.C. 13313] RENEWABLE ENERGY ADVANCEMENT AWARDS.

(a) AUTHORITY.—The Secretary shall make Renewable Energy Advancement Awards in recognition of developments that advance the practical application of biomass, geothermal, hydroelectric, photovoltaic, solar thermal, ocean thermal, and wind technologies to consumer, utility, or industrial uses, in accordance with this section. Except as provided in subsection (f), Renewable Energy Advancement Awards shall include a cash award.

(b) SELECTION CRITERIA.—The Secretary, in consultation with the Advisory Committee on Demonstration and Commercial Application of Renewable Energy and Energy Efficiency Technologies (in this section referred to as the “Advisory Committee”), under section 6 of the Renewable Energy and Energy Efficiency Technology Competitiveness Act of 1989, shall develop criteria to be applied in the selection of award recipients under this section. Such criteria shall include the following:

(1) The degree to which the technological development increases the utilization of renewable energy.

(2) The degree to which the development will have a significant impact, by benefitting a large number of people, by reducing the costs of an important industrial process or commercial product or service, or otherwise.

(3) The ingenuity of the development.

(4) Whether the application has significant export potential.

(5) The environmental soundness of the development.

(c) SELECTION.—Beginning in fiscal year 1994, and annually thereafter for a period of 10 years, the Secretary, in consultation with the Advisory Committee, shall select developments described in subsection (a) that are worthy of receiving an award under this section, and shall make such awards.

(d) ELIGIBILITY.—Awards may be made under this section only to individuals who are United States nationals or permanent resident aliens, or to non-Federal organizations that are organized under the laws of the United States or the laws of a State of the United States.

(e) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary \$50,000 for each of the fiscal years 1994, 1995, and 1996 for carrying out this section.

(f) AWARDS MADE IN ABSENCE OF APPROPRIATIONS.—The Secretary shall make honorary awards under this section if sufficient funds are not available for financial awards in any fiscal year.

SEC. 1205. [42 U.S.C. 13314] STUDY OF TAX AND RATE TREATMENT OF RENEWABLE ENERGY PROJECTS.

(a) The Secretary, in conjunction with State regulatory commissions, shall undertake a study to determine if conventional taxation and ratemaking procedures result in economic barriers to or incentives for renewable energy power plants compared to conventional power plants.

(b) Within 1 year after the date of the enactment of this Act, the Secretary shall submit a report to the Congress on the results of the study undertaken under subsection (a).

SEC. 1206. STUDY OF RICE MILLING ENERGY BY-PRODUCT MARKETING.

The Department of Energy shall conduct a study to facilitate the marketing of energy byproducts from rice milling.

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SEC. 1209. [42 U.S.C. 13315] DATA SYSTEM AND ENERGY TECHNOLOGY EVALUATION.

The Secretary of Commerce, in his or her role as a member of the interagency working group established under section 256 of the Energy Policy and Conservation Act (42 U.S.C. 6276), shall—

(1) develop a comprehensive data base and information dissemination system, using the National Trade Data Bank and the Commercial Information Management System of the Department of Commerce, that will provide information on the specific energy technology needs of foreign countries, and the technical and economic competitiveness of various renewable energy and energy efficiency products and technologies;

(2) make such information available to industry, Federal and multilateral lending agencies, nongovernmental organizations, host-country and donor-agency officials, and such others as the Secretary of Commerce considers necessary; and

(3) prepare and transmit to the Congress not later than June 1, 1993, and biennially thereafter, a comprehensive report evaluating the full range of energy and environmental technologies necessary to meet the energy needs of foreign countries, including—

(A) information on the specific energy needs of foreign countries;

(B) an inventory of United States technologies and services to meet those needs;

(C) an update on the status of ongoing bilateral and multilateral programs which promote United States exports of renewable energy and energy efficiency products and technologies; and

(D) an evaluation of current programs (and recommendations for future programs) that develop and promote energy efficiency and sustainable use of indigenous renewable energy resources in foreign countries to reduce the generation of greenhouse gases.

SEC. 1210. OUTREACH.

(a) **OUTREACH.**—The interagency working group established under section 256(d)(1)(A) of the Energy Policy and Conservation Act and the Secretary of Commerce shall select one individual who is experienced in renewable energy and energy efficiency products and technologies to be assigned by the Secretary of Commerce to an office of the United States and Foreign Commercial Service in the Pacific Rim, and one such individual to be assigned by the Secretary of Commerce to an office of the United States and Foreign Commercial Service in the Caribbean Basin, for the sole purpose of providing information concerning domestic renewable energy and energy efficiency products, technologies, and industries to territories, foreign governments, industries, and other appropriate persons.

(b) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to the Secretary for the purposes of this section \$500,000 for each of the fiscal years 1993 and 1994, and such sums as may be necessary for fiscal year 1995.

SEC. 1211. [42 U.S.C. 13316] INNOVATIVE RENEWABLE ENERGY TECHNOLOGY TRANSFER PROGRAM.

(a) **ESTABLISHMENT OF PROGRAM.**—The Secretary, through the Agency for International Development, and in consultation with the other members of the interagency working group established under section 256(d) of Energy Policy and Conservation Act (in this section referred to as the “interagency working group”), shall establish a renewable energy technology transfer program to carry out the purposes described in subsection (b). Within 150 days after the date of the enactment of this Act, the Secretary and the Administrator of the Agency for International Development shall enter into a written agreement to carry out this section. The agreement shall establish a procedure for resolving any disputes between the Secretary and the Administrator regarding the implementation of specific projects. With respect to countries not assisted by the Agency for International Development, the Secretary may enter into agreements with other appropriate Federal agencies. If the Secretary and the Administrator, or the Secretary and an agency described in the previous sentence, are unable to reach an agreement, each shall send a memorandum to the President outlining an appropriate agreement. Within 90 days after receipt of either memorandum, the President shall determine which version of the agreement shall be in effect. Any agreement entered into under this subsection shall be provided to the appropriate committees of the Congress and made available to the public.

(b) **PURPOSES OF THE PROGRAM.**—The purposes of the technology transfer program under this section are to—

(1) reduce the United States balance of trade deficit through the export of United States renewable energy technologies and technological expertise;

(2) retain and create manufacturing and related service jobs in the United States;

(3) encourage the export of United States renewable energy technologies, including services related thereto, to those countries that have a need for developmentally sound facilities to provide energy derived from renewable resources;

(4) develop markets for United States renewable energy technologies to be utilized in meeting the energy and environmental requirements of foreign countries;

(5) better ensure that United States participation in energy-related projects in foreign countries includes participation by United States firms as well as utilization of United States technologies that have been developed or demonstrated in the United States through publicly or privately funded demonstration programs;

(6) ensure the introduction of United States firms and expertise in foreign countries;

(7) provide financial assistance by the Federal Government to foster greater participation by United States firms in the financing, ownership, design, construction, or operation of renewable energy technology projects in foreign countries;

(8) assist foreign countries in meeting their energy needs through the use of renewable energy in an environmentally acceptable manner, consistent with sustainable development policies; and

(9) assist United States firms, especially firms that are in competition with firms in foreign countries, to obtain opportunities to transfer technologies to, or undertake projects in, foreign countries.

(c) IDENTIFICATION.—Pursuant to the agreements required by subsection (a), the Secretary, through the Agency for International Development, and after consultation with the interagency working group, United States firms, and representatives from foreign countries, shall develop mechanisms to identify potential energy projects in host countries, and shall identify a list of such projects within 240 days after the date of the enactment of this Act, and periodically thereafter.

(d) FINANCIAL MECHANISMS.—(1) Pursuant to the agreements under subsection (a), the Secretary, through the Agency for International Development, shall—

(A) establish appropriate financial mechanisms to increase the participation of United States firms in energy projects utilizing United States renewable energy technologies, and services related thereto, in developing countries;

(B) utilize available financial assistance authorized by this section to counterbalance assistance provided by foreign governments to non-United States firms; and

(C) provide financial assistance to support projects.

(2) The financial assistance authorized by this section may be—

(A) provided in combination with other forms of financial assistance, including non-United States funding that is available to the project; and

(B) utilized to assist United States firms in the development of innovative financing packages for renewable energy technology projects that utilize other financial assistance programs available through the Federal Government.

(3) United States obligations under the Arrangement on Guidelines for Officially Supported Export Credits established through the Organization for Economic Cooperation and Development shall be applicable to this section.

(e) SOLICITATIONS FOR PROJECT PROPOSALS.—(1) Pursuant to the agreements under subsection (a), the Secretary, through the Agency for International Development, within one year after the date of the enactment of this Act, and subsequently as appropriate thereafter, shall solicit proposals from United States firms for the design, construction, testing, and operation of the project or projects identified under subsection (c) which propose to utilize a United States renewable energy technology. Each solicitation under this section shall establish a closing date for receipt of proposals.

(2) The solicitation under this subsection shall, to the extent appropriate, be modeled after the RFP No. DE-PS01-90FE62271 Clean Coal Technology IV, as administered by the Department of Energy.

(3) Any solicitation made under this subsection shall include the following requirements:

(A) The United States firm that submits a proposal in response to the solicitation shall have an equity interest in the proposed project.

(B) The project shall utilize a United States renewable energy technology, including services related thereto, in meeting the applicable energy and environmental requirements of the host country.

(C) Proposals for projects shall be submitted by and undertaken with a United States firm, although a joint venture or other teaming arrangement with a non-United States manufacturer or other non-United States entity is permissible.

(f) ASSISTANCE TO UNITED STATES FIRMS.—Pursuant to the agreements under subsection (a), the Secretary, through the Agency for International Development, and in consultation with the interagency working group, shall establish a procedure to provide financial assistance to United States firms under this section for a project identified under subsection (c) where solicitations for the project are being conducted by the host country or by a multilateral lending institution.

(g) OTHER PROGRAM REQUIREMENTS.—Pursuant to the agreements under subsection (a), the Secretary, through the Agency for International Development, and in consultation with the working group, shall—

(1) establish eligibility criteria for host countries;

(2) periodically review the energy needs of such countries and export opportunities for United States firms for the development of projects in such countries;

(3) consult with government officials in host countries and, as appropriate, with representatives of utilities or other entities in host countries, to determine interest in and support for potential projects; and

(4) determine whether each project selected under this section is developmentally sound, as determined under the criteria developed by the Development Assistance Committee of the Organization for Economic Cooperation and Development.

(h) SELECTION OF PROJECTS.—(1) Pursuant to the agreements under subsection (a), the Secretary, through the Agency for International Development, shall, not later than 120 days after receipt of proposals in response to a solicitation under subsection (e), select one or more proposals under this section.

(2) In selecting a proposal under this section, the Secretary, through the Agency for International Development, shall consider—

(A) the ability of the United States firm, in cooperation with the host country, to undertake and complete the project;

(B) the degree to which the equipment to be included in the project is designed and manufactured in the United States;

(C) the long-term technical and competitive viability of the United States technology, and services related thereto, and the ability of the United States firm to compete in the development of additional energy projects using such technology in the host country and in other foreign countries;

(D) the extent of technical and financial involvement of the host country in the project;

(E) the extent to which the proposed project meets the purposes stated in section 1201(b);

(F) the extent of technical, financial, management, and marketing capabilities of the participants in the project, and the commitment of the participants to completion of a successful project in a manner that will facilitate acceptance of the United States technology for future application; and

(G) such other criteria as may be appropriate.

(3) In selecting among proposed projects, the Secretary shall seek to ensure that, relative to otherwise comparable projects in the host country, a selected project will meet 1 or more of the following criteria:

(A) It will reduce environmental emissions to an extent greater than required by applicable provisions of law.

(B) It will make greater use of indigenous renewable energy resources.

(C) It will be a more cost-effective technological alternative, based on life cycle capital and operating costs per unit of energy produced and, where applicable, costs per unit of product produced.

Priority in selection shall be given to those projects which, in the judgment of the Secretary, best meet one or more of these criteria.

(i) UNITED STATES-ASIA ENVIRONMENTAL PARTNERSHIP.—Activities carried out under this section shall be coordinated with the United States-Asia Environmental Partnership.

(j) BUY AMERICA.—In carrying out this section, the Secretary, through the Agency for International Development, and pursuant to the agreements under subsection (a), shall ensure—

(1) the maximum percentage, but in no case less than 50 percent, of the cost of any equipment furnished in connection with a project authorized under this section shall be attributable to the manufactured United States components of such equipment; and

(2) the maximum participation of United States firms.

In determining whether the cost of United States components equals or exceeds 50 percent, the cost of assembly of such United States components in the host country shall not be considered a part of the cost of such United States component.

(k) REPORTS TO CONGRESS.—The Secretary and the Administrator of the Agency for International Development shall report annually to the Committee on Energy and Natural Resources of the

Senate and the appropriate committees of the House of Representatives on the progress being made to introduce renewable energy technologies into foreign countries.

(l) DEFINITIONS.—For purposes of this section—

(1) the term “host country” means a foreign country which is—

(A) the participant in or the site of the proposed renewable energy technology project; and

(B) either—

(i) classified as a country eligible to participate in development assistance programs of the Agency for International Development pursuant to applicable law or regulation; or

(ii) a developing country.

(2) the term “developing country” includes, but is not limited to, countries in Central and Eastern Europe or in the independent states of the former Soviet Union.

(m) AUTHORIZATION FOR PROGRAM.—There are authorized to be appropriated to the Secretary to carry out the program required by this section, \$100,000,000 for each of the fiscal years 1993, 1994, 1995, 1996, 1997, and 1998.

SEC. 1212. [42 U.S.C. 13317] RENEWABLE ENERGY PRODUCTION INCENTIVE.

(a) INCENTIVE PAYMENTS.—For electric energy generated and sold by a qualified renewable energy facility during the incentive period, the Secretary shall make, subject to the availability of appropriations, incentive payments to the owner or operator of such facility. The amount of such payment made to any such owner or operator shall be as determined under subsection (e). Payments under this section may only be made upon receipt by the Secretary of an incentive payment application which establishes that the applicant is eligible to receive such payment and which satisfies such other requirements as the Secretary deems necessary. Such application shall be in such form, and shall be submitted at such time, as the Secretary shall establish.

(b) QUALIFIED RENEWABLE ENERGY FACILITY.—For purposes of this section, a qualified renewable energy facility is a facility which is owned by a State or any political subdivision of a State (or an agency, authority, or instrumentality of a State or a political subdivision), by any corporation or association which is wholly owned, directly or indirectly, by one or more of the foregoing, or by a non-profit electrical cooperative and which generates electric energy for sale in, or affecting, interstate commerce using solar, wind, biomass, or geothermal energy, except that—

(1) the burning of municipal solid waste shall not be treated as using biomass energy; and

(2) geothermal energy shall not include energy produced from a dry steam geothermal reservoir which has—

(A) no mobile liquid in its natural state;

(B) steam quality of 95 percent water; and

(C) an enthalpy for the total produced fluid greater than or equal to 1200 Btu/lb (British thermal units per pound).

(c) ELIGIBILITY WINDOW.—Payments may be made under this section only for electricity generated from a qualified renewable en-

ergy facility first used during the 10-fiscal year period beginning with the first full fiscal year occurring after the enactment of this section.

(d) **PAYMENT PERIOD.**—A qualified renewable energy facility may receive payments under this section for a 10-fiscal year period. Such period shall begin with the fiscal year in which electricity generated from the facility is first eligible for such payments.

(e) **AMOUNT OF PAYMENT.**—

(1) **IN GENERAL.**—Incentive payments made by the Secretary under this section to the owner or operator of any qualified renewable energy facility shall be based on the number of kilowatt hours of electricity generated by the facility through the use of solar, wind, biomass, or geothermal energy during the payment period referred to in subsection (d). For any facility, the amount of such payment shall be 1.5 cents per kilowatt hour, adjusted as provided in paragraph (2).

(2) **ADJUSTMENTS.**—The amount of the payment made to any person under this subsection as provided in paragraph (1) shall be adjusted for inflation for each fiscal year beginning after calendar year 1993 in the same manner as provided in the provisions of section 29(d)(2)(B) of the Internal Revenue Code of 1986, except that in applying such provisions the calendar year 1993 shall be substituted for calendar year 1979.

(f) **SUNSET.**—No payment may be made under this section to any facility after the expiration of the 20-fiscal year period beginning with the first full fiscal year occurring after the enactment of this section, and no payment may be made under this section to any facility after a payment has been made with respect to such facility for a 10-fiscal year period.

(g) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to the Secretary for fiscal years 1993, 1994, and 1995 such sums as may be necessary to carry out the purposes of this section.

TITLE XIII—COAL

Subtitle A—Research, Development, Demonstration, and Commercial Application

SEC. 1301. [42 U.S.C. 13331] COAL RESEARCH, DEVELOPMENT, DEMONSTRATION, AND COMMERCIAL APPLICATION PROGRAMS.

(a) **ESTABLISHMENT.**—The Secretary shall, in accordance with section 3001 and 3002 of this Act, conduct programs for research, development, demonstration, and commercial application on coal-based technologies. Such research, development, demonstration, and commercial application programs shall include the programs established under this subtitle, and shall have the goals and objectives of—

- (1) ensuring a reliable electricity supply;
- (2) complying with applicable environmental requirements;
- (3) achieving the control of sulfur oxides, oxides of nitrogen, air toxics, solid and liquid wastes, greenhouse gases, or other emissions resulting from coal use or conversion at levels

of proficiency greater than or equal to applicable currently available commercial technology;

(4) achieving the cost competitive conversion of coal into energy forms usable in the transportation sector;

(5) demonstrating the conversion of coal to synthetic gaseous, liquid, and solid fuels;

(6) demonstrating, in cooperation with other Federal and State agencies, the use of coal-derived fuels in mobile equipment, with opportunities for industrial cost sharing participation;

(7) ensuring the timely commercial application of cost-effective technologies or energy production processes or systems utilizing coal which achieve—

(A) greater efficiency in the conversion of coal to useful energy when compared to currently available commercial technology for the use of coal; and

(B) the control of emissions from the utilization of coal; and

(8) ensuring the availability for commercial use of such technologies by the year 2010.

(b) DEMONSTRATION AND COMMERCIAL APPLICATION PROGRAMS.—(1) In selecting either a demonstration project or a commercial application project for financial assistance under this subtitle, the Secretary shall seek to ensure that, relative to otherwise comparable commercially available technologies or products, the selected project will meet one or more of the following criteria:

(A) It will reduce environmental emissions to an extent greater than required by applicable provisions of law.

(B) It will increase the overall efficiency of the utilization of coal, including energy conversion efficiency and, where applicable, production of products derived from coal.

(C) It will be a more cost-effective technological alternative, based on life cycle capital and operating costs per unit of energy produced and, where applicable, costs per unit of product produced.

Priority in selection shall be given to those projects which, in the judgment of the Secretary, best meet one or more of these criteria.

(2) In administering demonstration and commercial application programs authorized by this subtitle, the Secretary shall establish accounting and project management controls that will be adequate to control costs.

(3)(A) Not later than 180 days after the date of enactment of this Act, the Secretary shall establish procedures and criteria for the recoupment of the Federal share of each cost shared demonstration and commercial application project authorized pursuant to this subtitle. Such recoupment shall occur within a reasonable period of time following the date of completion of such project, but not later than 20 years following such date, taking into account the effect of recoupment on—

(i) the commercial competitiveness of the entity carrying out the project;

(ii) the profitability of the project; and

(iii) the commercial viability of the coal-based technology utilized.

(B) The Secretary may at any time waive or defer all or some portion of the recoupment requirement as necessary for the commercial viability of the project.

(4) Projects selected by the Secretary under this subtitle for demonstration or commercial application of a technology shall, in the judgment of the Secretary, be capable of enhancing the state of the art for such technology.

(c) REPORT.—Within 240 days after the date of enactment of this Act, the Secretary shall transmit to the Committee on Energy and Commerce and the Committee on Science, Space, and Technology of the House of Representatives¹ and to the Committee on Energy and Natural Resources of the Senate a report which shall include each of the following:

(1) A detailed description of ongoing research, development, demonstration, and commercial application activities regarding coal-based technologies undertaken by the Department of Energy, other Federal or State government departments or agencies and, to the extent such information is publicly available, other public or private organizations in the United States and other countries.

(2) A listing and analysis of current Federal and State government regulatory and financial incentives that could further the goals of the programs established under this subtitle.

(3) Recommendations regarding the manner in which any ongoing coal-based demonstration and commercial application program might be modified and extended in order to ensure the timely demonstrations of advanced coal-based technologies so as to ensure that the goals established under this section are achieved and that such demonstrated technologies are available for commercial use by the year 2010.

(4) Recommendations, if any, regarding the manner in which the cost sharing demonstrations conducted pursuant to the Clean Coal Program established by Public Law 98-473 might be modified and extended in order to ensure the timely demonstration of advanced coal-based technologies.

(5) A detailed plan for conducting the research, development, demonstration, and commercial application programs to achieve the goals and objectives of subsection (a) of this section, which plan shall include a description of—

(A) the program elements and management structure to be utilized;

(B) the technical milestones to be achieved with respect to each of the advanced coal-based technologies included in the plan; and

(C) the dates at which further deadlines for additional cost sharing demonstrations shall be established.

(d) STATUS REPORTS.—Within one year after transmittal of the report described in subsection (c), and every 2 years thereafter for a period of 6 years, the Secretary shall transmit to the Congress a report that provides a detailed description of the status of development of the advanced coal-based technologies and the research,

¹In accordance with section 1(a)(10) of Public Law 104-14 (109 Stat. 187), “the Committee on Science, Space, and Technology of the House of Representatives shall be treated as referring to the Committee on Science of the House of Representatives”.

development, demonstration, and commercial application activities undertaken to carry out the programs required by this subtitle.

(e) CONSULTATION.—In carrying out research, development, demonstration, and commercial application activities under this subtitle, the Secretary shall consult with the National Coal Council and other representatives of the public and private sectors as the Secretary considers appropriate.

SEC. 1302. [42 U.S.C. 13332] COAL-FIRED DIESEL ENGINES.

The Secretary shall conduct a program of research, development, demonstration, and commercial application for utilizing coal-derived liquid or gaseous fuels, including ultra-clean coal-water slurries, in diesel engines. The program shall address—

- (1) required engine retrofit technology;
- (2) coal-fuel production technology;
- (3) emission control requirements;
- (4) the testing of low-Btu highly reactive fuels;
- (5) fuel delivery and storage systems requirements; and
- (6) other infrastructure required to support commercial deployment.

SEC. 1303. [42 U.S.C. 13333] CLEAN COAL, WASTE-TO-ENERGY.

The Secretary shall establish a program of research, development, demonstration, and commercial application with respect to the use of solid waste combined with coal as a fuel source for clean coal combustion technologies. The program shall address—

- (1) the feasibility of cofiring coal and used vehicle tires in fluidized bed combustion units;
- (2) the combined gasification of coal and municipal sludge using integrated gasification combined cycle technology;
- (3) the creation of fuel pellets combining coal and material reclaimed from solid waste;
- (4) the feasibility of cofiring, in fluidized bed combustion units, waste methane from coal mines, including ventilation air, together with coal or coal wastes; and
- (5) other sources of waste and coal mixtures in other applications that the Secretary considers appropriate.

SEC. 1304. [42 U.S.C. 13334] NONFUEL USE OF COAL.

(a) PROGRAM.—The Secretary shall prepare a plan for and carry out a program of research, development, demonstration, and commercial application with respect to technologies for the nonfuel use of coal, including—

- (1) production of coke and other carbon products derived from coal;
- (2) production of coal-derived, carbon-based chemical intermediates that are precursors of value-added chemicals and polymers;
- (3) production of chemicals from coal-derived synthesis gas;
- (4) coal treatment processes, including methodologies such as solvent-extraction techniques that produce low ash, low sulfur, coal-based chemical feedstocks; and
- (5) waste utilization, including recovery, processing, and marketing of products derived from sulfur, carbon dioxide, nitrogen, and ash from coal.

(b) **PLAN CONTENTS.**—The plan described in subsection (a) shall address and evaluate—

(1) the known and potential processes for using coal in the creation of products in the chemical, utility, fuel, and carbon-based materials industries;

(2) the costs, benefits, and economic feasibility of using coal products in the chemical and materials industries, including value-added chemicals, carbon-based products, coke, and waste derived from coal;

(3) the economics of coproduction of products from coal in conjunction with the production of electric power, thermal energy, and fuel;

(4) the economics of the refining of coal and coal byproducts to produce nonfuel products;

(5) the economics of coal utilization in comparison with other feedstocks that might be used for the same purposes;

(6) the steps that can be taken by the public and private sectors to bring about commercialization of technologies developed under the program recommended; and

(7) the past development, current status, and future potential of coal products and processes associated with nonfuel uses of coal.

SEC. 1305. [42 U.S.C. 13335] COAL REFINERY PROGRAM.

(a) **PROGRAM.**—The Secretary shall conduct a program of research, development, demonstration, and commercial application for coal refining technologies.

(b) **OBJECTIVES.**—The program shall include technologies for refining high sulfur coals, low sulfur coals, sub-bituminous coals, and lignites to produce clean-burning transportation fuels, compliance boiler fuels, fuel additives, lubricants, chemical feedstocks, and carbon-based manufactured products, either alone or in conjunction with the generation of electricity or process heat, or the manufacture of a variety of products from coal. The objectives of such program shall be to achieve—

(1) the timely commercial application of technologies, including mild gasification, hydrocracking and other hydrolysis processes, and other energy production processes or systems to produce coal-derived fuels and coproducts, which achieve greater efficiency and economy in the conversion of coal to electrical energy and coproducts than currently available technology;

(2) the production of energy, fuels, and products which, on a complete energy system basis, will result in environmental emissions no greater than those produced by existing comparable energy systems utilized for the same purpose;

(3) the capability to produce a range of coal-derived transportation fuels, including oxygenated hydrocarbons, boiler fuels, turbine fuels, and coproducts, which can reduce dependence on imported oil by displacing conventional petroleum in the transportation sector and other sectors of the economy;

(4) reduction in the cost of producing such coal-derived fuels and coproducts;

(5) the control of emissions from the combustion of coal-derived fuels; and

(6) the availability for commercial use of such technologies by the year 2000.

SEC. 1306. [42 U.S.C. 13336] COALBED METHANE RECOVERY.

(a) **STUDY OF BARRIERS AND ENVIRONMENTAL AND SAFETY ASPECTS.**—The Secretary, in consultation with the Administrator of the Environmental Protection Agency and the Secretary of the Interior, shall conduct a study of—

(1) technical, economic, financial, legal, regulatory, institutional, or other barriers to coalbed methane recovery, and of policy options for eliminating such barriers; and

(2) the environmental and safety aspects of flaring coalbed methane liberated from coal mines.

Within two years after the date of enactment of this Act, the Secretary shall submit a report to the Congress detailing the results of such study.

(b) **INFORMATION DISSEMINATION.**—Beginning one year after the date of enactment of this Act, the Secretary, in consultation with the Administrator of the Environmental Protection Agency and the Secretary of the Interior, shall disseminate to the public information on state-of-the-art coalbed methane recovery techniques, including information on costs and benefits.

(c) **DEMONSTRATION AND COMMERCIAL APPLICATION PROGRAM.**—The Secretary, in consultation with the Administrator of the Environmental Protection Agency and the Secretary of the Interior, shall establish a coalbed methane recovery demonstration and commercial application program, which shall emphasize gas enrichment technology. Such program shall address—

(1) gas enrichment technologies for enriching medium-quality methane recovered from coal mines to pipeline quality;

(2) technologies to use mine ventilation air in nearby power generation facilities, including gas turbines, internal combustion engines, or other coal fired powerplants;

(3) technologies for cofiring methane recovered from mines, including methane from ventilation systems and degasification systems, together with coal in conventional or clean coal technology boilers; and

(4) other technologies for producing and using methane from coal mines that the Secretary considers appropriate.

SEC. 1307. [42 U.S.C. 13337] METALLURGICAL COAL DEVELOPMENT.

(a) The Secretary shall establish a research, development, demonstration, and commercial application program on metallurgical coal utilization for the purpose of developing techniques that will lead to the greater and more efficient utilization of the Nation's metallurgical coal resources.

(b) The program referred to in subsection (a) shall include the use of metallurgical coal—

(1) as a boiler fuel for the purpose of generating steam to produce electricity, including blending metallurgical coal with other coals in order to enhance its efficient application as a boiler fuel;

(2) as an ingredient in the manufacturing of steel; and

(3) as a source of pipeline quality coalbed methane.

SEC. 1308. [42 U.S.C. 13338] UTILIZATION OF COAL WASTES.

(a) **COAL WASTE UTILIZATION PROGRAM.**—The Secretary, in consultation with the Secretary of the Interior, shall establish a research, development, demonstration, and commercial application program on coal waste utilization for the purpose of developing techniques that will lead to the greater and more efficient utilization of coal wastes from mining and processing, other than coal ash.

(b) **USE AS BOILER FUEL.**—The program referred to in subsection (a) shall include projects to facilitate the use of coal wastes from mining and processing as a boiler fuel for the purpose of generating steam to produce electricity.

SEC. 1309. [42 U.S.C. 13339] UNDERGROUND COAL GASIFICATION.

(a) **PROGRAM.**—The Secretary shall conduct a research, development, demonstration, and commercial application program for underground coal gasification technology for in-situ conversion of coal to a cleaner burning, easily transportable gaseous fuel. The goal and objective of this program shall be to accelerate the development and commercialization of underground coal gasification. In carrying out this program, the Secretary shall give equal consideration to all ranks of coal.

(b) **DEMONSTRATION PROJECTS.**—As part of the program authorized in subsection (a), the Secretary may solicit proposals for underground coal gasification technology projects to fulfill the goal and objective of subsection (a).

SEC. 1310. [42 U.S.C. 13340] LOW-RANK COAL RESEARCH AND DEVELOPMENT.

The Secretary shall pursue a program of research and development with respect to the technologies needed to expand the use of low-rank coals which take into account the unique properties of lignites and sub-bituminous coals, including, but not limited to, the following areas—

- (1) high value-added carbon products;
- (2) fuel cell applications;
- (3) emissions control and combustion efficiencies;
- (4) coal water fuels and underground coal gasification;
- (5) distillates; and
- (6) any other technologies which will assist in the development of niche markets for lignites and sub-bituminous coals.

SEC. 1311. [42 U.S.C. 13341] MAGNETOHYDRODYNAMICS.

(a) **PROGRAM.**—The Secretary shall carry out a research, development, demonstration, and commercial application program in magnetohydrodynamics. The purpose of this program shall be to determine the adequacy of the engineering and design information completed to date under Department of Energy contracts related to magnetohydrodynamics retrofit systems and to determine whether any further Federal investment in this technology is warranted.

(b) **SOLICITATION OF PROPOSALS.**—In order to carry out the program authorized in subsection (a), the Secretary may solicit proposals from the private sector and seek to enter into an agreement with appropriate parties.

SEC. 1312. [42 U.S.C. 13342] OIL SUBSTITUTION THROUGH COAL LIQUEFACTION.

(a) **PROGRAM DIRECTION.**—The Secretary shall conduct a program of research, development, demonstration, and commercial application for the purpose of developing economically and environmentally acceptable advanced technologies for oil substitution through coal liquefaction.

(b) **PROGRAM GOALS.**—The goals of the program established under subsection (a) shall include—

- (1) improved resource selection and product quality;
- (2) the development of technologies to increase net yield of liquid fuel product per ton of coal;
- (3) an increase in overall thermal efficiency; and
- (4) a reduction in capital and operating costs through technology improvements.

(c) **PROPOSALS.**—Within 180 days after the date of enactment of this Act, the Secretary shall solicit proposals for conducting activities under this section.

SEC. 1313. [42 U.S.C. 13343] AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to the Secretary for carrying out this subtitle \$278,139,000 for fiscal year 1993 and such sums as may be necessary for fiscal years 1994 through 1997.

Subtitle B—Clean Coal Technology Program

SEC. 1321. [42 U.S.C. 13351] ADDITIONAL CLEAN COAL TECHNOLOGY SOLICITATIONS.

(a) **PROGRAM DESIGN.**—Additional clean coal technology solicitations described in subsection (b) shall be designed to ensure the timely development of cost-effective technologies or energy production processes or systems utilizing coal that achieve greater efficiency in the conversion of coal to useful energy when compared to currently commercially available technology for the use of coal and the control of emissions from the combustion of coal. Such program shall be designed to ensure, to the greatest extent possible, the availability for commercial use of such technologies by the year 2010.

(b) **ADDITIONAL SOLICITATIONS.**—In conducting the Clean Coal Program established by Public Law 98–473, the Secretary shall consider the potential benefits of conducting additional solicitations pursuant to such program and, based on the results of that consideration, may carry out such additional solicitations, which shall be similar in scope and percentage of Federal cost sharing as that provided by Public Law 101–121.

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TITLE XX—GENERAL PROVISIONS; REDUCTION OF OIL VULNERABILITY

SEC. 2001. [42 U.S.C. 13401] GOALS.

It is the goal of the United States in carrying out energy supply and energy conservation research and development—

(1) to strengthen national energy security by reducing dependence on imported oil;

(2) to increase the efficiency of the economy by meeting future needs for energy services at the lowest total cost to the Nation, including environmental costs, giving comparable consideration to technologies that enhance energy supply and technologies that improve the efficiency of energy end uses;

(3) to reduce the air, water, and other environmental impacts (including emissions of greenhouse gases) of energy production, distribution, transportation, and utilization, through the development of an environmentally sustainable energy system;

(4) to maintain the technological competitiveness of the United States and stimulate economic growth through the development of advanced materials and technologies;

(5) to foster international cooperation by developing international markets for domestically produced sustainable energy technologies, and by transferring environmentally sound, advanced energy systems and technologies to developing countries to promote sustainable development;

(6) to consider the comparative environmental and public health impacts of the energy to be produced or saved by the specific activities;

(7) to consider the obstacles inherent in private industry's development of new energy technologies and steps necessary for establishing or maintaining technological leadership in the area of energy and energy efficiency resource technologies; and

(8) to consider the contribution of a given activity to fundamental scientific knowledge.

Subtitle A—Oil and Gas Supply Enhancement

SEC. 2011. [42 U.S.C. 13411] ENHANCED OIL RECOVERY.

(a) PROGRAM DIRECTION.—The Secretary shall conduct a 5-year program, in accordance with sections 3001 and 3002 of this Act, on technologies to increase the recoverability of domestic oil resources to—

(1) improve reservoir characterization;

(2) improve analysis and field verification;

(3) field test and demonstrate enhanced oil recovery processes, including advanced processes, in reservoirs the Secretary considers to be of high priority, ranked primarily on the basis of oil recovery potential and risk of abandonment;

(4) transfer proven recovery technologies to producers and operators of wells, including stripper wells, that would other-

wise be likely to be abandoned in the near term due to declining production;

(5) improve enhanced oil recovery process technology for more economic and efficient oil production;

(6) identify and develop new recovery technologies;

(7) study reservoir properties and how they affect oil recovery from porous media;

(8) improve techniques for meeting environmental requirements;

(9) improve data bases of reservoir and environmental conditions; and

(10) lower lifting costs on stripper wells by utilizing advanced renewable energy technologies such as small wind turbines and others.

(b) PROGRAM GOALS.—

(1) NEAR-TERM PRIORITIES.—The near-term priorities of the program include preserving access to high potential reservoirs, identifying available technologies that can extend the lifetime of wells and of stripper well property, and developing environmental field operations for waste disposal and injection practices.

(2) MID-TERM PRIORITIES.—The mid-term priorities of the program include developing and testing identified but unproven technologies, and transferring those technologies for widespread use.

(3) LONG-TERM PRIORITIES.—The long-term priorities of the program include developing advanced techniques to recover oil not recoverable by other techniques.

(c) ACCELERATED PROGRAM PLAN.—Within 180 days after the date of enactment of this Act, the Secretary shall prepare and submit to the Congress a plan for carrying out under this section the accelerated field testing of technologies to achieve the priorities stated in subsection (b). In preparing the plan, the Secretary shall consult with appropriate representatives of industry, institutions of higher education, Federal agencies, including national laboratories, and professional and technical societies, and with the Advisory Board established under section 2302.

(d) PROPOSALS.—Within 1 year after the date of enactment of this Act, the Secretary shall solicit proposals for conducting activities under this section.

(e) CONSULTATION.—In carrying out the provisions of this section, the Secretary shall consult representatives of the oil and gas industry with respect to innovative research and development proposals to improve oil and gas recovery and shall consider relevant technical data from industry and other research and information centers and institutes.

(f) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary for carrying out this section, including advanced extraction and process technology, \$57,250,000 for fiscal year 1993 and \$70,000,000 for fiscal year 1994.

SEC. 2012. [42 U.S.C. 13412] OIL SHALE.

(a) PROGRAM DIRECTION.—The Secretary shall conduct a 5-year program, in accordance with sections 3001 and 3002 of this Act, on oil shale extraction and conversion, including research and develop-

ment on both eastern and western shales, as provided in this section.

(b) PROGRAM GOALS.—The goals of the program established under this section include—

(1) supporting the development of economically competitive and environmentally acceptable technologies to produce domestic supplies of liquid fuels from oil shale;

(2) increasing knowledge of environmentally acceptable oil shale waste disposal technologies and practices;

(3) increasing knowledge of the chemistry and kinetics of oil shale retorting;

(4) increasing understanding of engineering issues concerning the design and scale-up of oil shale extraction and conversion technologies;

(5) improving techniques for oil shale mining systems; and

(6) providing for cooperation with universities and other private sector entities.

(c) EASTERN OIL SHALE PROGRAM.—(1) As part of the program authorized by this section, the Secretary shall carry out a program on oil shale that includes applied research, in cooperation with universities and the private sector, on eastern oil shale that may have the potential to decrease United States dependence on energy imports.

(2) As part of the program authorized by this subsection, the Secretary shall consider the potential benefits of including in that program applied research carried out in cooperation with universities and other private sector entities that are, as of the date of enactment of this Act, engaged in research on eastern oil shale retorting and associated processes.

(3) The program carried out under this subsection shall be cost-shared with universities and the private sector to the maximum extent possible.

(d) WESTERN OIL SHALE PROGRAM.—As part of the program authorized by this section, the Secretary shall carry out a program on extracting oil from western oil shales that includes, if appropriate, establishment and utilization of at least one field testing center for the purpose of testing, evaluating, and developing improvements in oil shale technology at the field test level. In establishing such a center, the Secretary shall consider sites with existing oil shale mining and processing infrastructure and facilities. Sixty days prior to establishing any such field testing center, the Secretary shall submit a report to Congress on the center to be established.

(e) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary for carrying out this section \$5,250,000 for fiscal year 1993 and \$6,000,000 for fiscal year 1994.

SEC. 2013. [42 U.S.C. 13413] NATURAL GAS SUPPLY.

(a) PROGRAM DIRECTION.—The Secretary shall conduct a 5-year program, in accordance with sections 3001 and 3002 of this Act, to increase the recoverable natural gas resource base including, but not limited to—

(1) more intensive recovery of natural gas from discovered conventional resources;

(2) the extraction of natural gas from tight gas sands and devonian shales or other unconventional sources;

(3) surface gasification of coal; and

(4) recovery of methane from biofuels including municipal solid waste.

(b) PROPOSALS.—Within 1 year after the date of enactment of this Act, the Secretary shall solicit proposals for conducting activities under this section.

(c) COFIRING OF NATURAL GAS AND COAL.—

(1) PROGRAM.—The Secretary shall establish and carry out a 5-year program, in accordance with sections 3001 and 3002 of this Act, on cofiring natural gas with coal in utility and large industrial boilers in order to determine optimal natural gas injection levels for both environmental and operational benefits.

(2) FINANCIAL ASSISTANCE.—The Secretary shall enter into agreements with, and provide financial assistance to, appropriate parties for application of cofiring technologies to boilers to demonstrate this technology.

(3) REPORT TO CONGRESS.—The Secretary shall, before December 31, 1995, submit to the Congress a report on the progress made in carrying out this subsection.

(d) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary for carrying out this section and sections 2014 and 2015, \$29,745,000 for fiscal year 1993 and \$45,000,000 for fiscal year 1994.

SEC. 2014. [42 U.S.C. 13414] NATURAL GAS END-USE TECHNOLOGIES.

The Secretary shall carry out a 5-year program, in accordance with sections 3001 and 3002 of this Act, on new and advanced natural gas utilization technologies including, but not limited to—

(1) stationary source emissions control and efficiency improvements including combustion systems, industrial processes, cogeneration, and waste fuels; and

(2) natural gas storage including increased deliverability from existing gas storage facilities and new capabilities for storage near demand centers, and on-site storage at major energy consuming facilities.

SEC. 2015. [42 U.S.C. 13415] MIDCONTINENT ENERGY RESEARCH CENTER.

(a) FINDING.—Congress finds that petroleum resources in the midcontinent region of the United States are very large but are being prematurely abandoned.

(b) PURPOSES.—The purposes of this section are to—

(1) improve the efficiency of petroleum recovery;

(2) increase ultimate petroleum recovery; and

(3) delay the abandonment of resources.

(c) ESTABLISHMENT.—The Secretary may establish the Midcontinent Energy Research Center (referred to in this section as the “Center”) to—

(1) conduct research in petroleum geology and engineering focused on improving the recovery of petroleum from existing fields and established plays in the upper midcontinent region of the United States; and

(2) ensure that the results of the research described in paragraph (1) are transferred to users.

(d) RESEARCH.—

(1) IN GENERAL.—In conducting research under this section, the Center shall, to the extent practicable, cooperate with agencies of the Federal Government, the States in the midcontinent region of the United States, and the affected industry.

(2) PROGRAMS.—Research programs conducted by the Center may include—

- (A) data base development and transfer of technology;
- (B) reservoir management;
- (C) reservoir characterization;
- (D) advanced recovery methods; and
- (E) development of new technology.

Subtitle B—Oil and Gas Demand Reduction and Substitution

SEC. 2021. [42 U.S.C. 13431] GENERAL TRANSPORTATION.

(a) PROGRAM DIRECTION.—The Secretary shall conduct a 5-year program, in accordance with sections 3001 and 3002 of this Act, on cost effective technologies to reduce the demand for oil in the transportation sector for all motor vehicles, including existing vehicles, through increased energy efficiency and the use of alternative fuels. Such program shall include a broad range of technological approaches, and shall include field demonstrations of sufficient scale and number in operating environments to prove technical and economic viability to meet the goals stated in section 2001. Such program shall include the activities required under sections 2022 through 2027, and ongoing activities of a similar nature at the Department of Energy.

(b) PROGRAM PLAN.—Within 180 days after the date of enactment of this Act, the Secretary shall prepare and submit to the Congress a 5-year program plan to guide activities under this subtitle. In preparing the program plan, the Secretary shall consult with appropriate representatives of industry, utilities, institutions of higher education, Federal agencies, including national laboratories, and professional and technical societies.

(c) PROPOSALS.—Within 1 year after the date of enactment of this Act, the Secretary shall solicit proposals for conducting activities under this section.

(d) DEFINITION.—For purposes of this subtitle, the term “alternative fuels” includes natural gas, liquefied petroleum gas, hydrogen, fuels other than alcohol that are derived from biological materials, and any fuel the content of which is at least 85 percent by volume methanol, ethanol, or other alcohol.

(e) AUTHORIZATION OF APPROPRIATIONS.—(1) There are authorized to be appropriated to the Secretary for carrying out this subtitle, including all transportation sector energy conservation research and development (other than activities under section 2025) and all transportation sector biofuels energy systems under solar energy, \$119,144,000 for fiscal year 1993 and \$160,000,000 for fiscal year 1994.

(2) There are authorized to be appropriated to the Secretary for carrying out section 2025—

- (A) \$60,300,000 for fiscal year 1993;
- (B) \$75,000,000 for fiscal year 1994;
- (C) \$80,000,000 for fiscal year 1995;
- (D) \$80,000,000 for fiscal year 1996;
- (E) \$90,000,000 for fiscal year 1997; and
- (F) \$100,000,000 for fiscal year 1998.

SEC. 2022. [42 U.S.C. 13432] ADVANCED AUTOMOTIVE FUEL ECONOMY.

(a) PROGRAM DIRECTION.—The Secretary shall conduct a program, in accordance with sections 3001 and 3002 of this Act, to supplement ongoing research activities of a similar nature at the Department of Energy, to accelerate the near-term and mid-term development of advanced technologies to improve the fuel economy of light-duty passenger vehicles powered by a piston engine, and hybrid vehicles powered by a combination of piston engine and electric motor.

(b) PROGRAM GOAL.—The goal of the program established under subsection (a) shall be to stimulate the development of emerging technologies with the potential to achieve significant improvements in fuel economy while reducing emissions of air pollutants.

(c) PROPOSALS.—Within 1 year after the date of enactment of this Act, the Secretary shall solicit proposals for conducting activities under this section, making a special effort to involve small businesses in the program.

SEC. 2023. [42 U.S.C. 13433] ALTERNATIVE FUEL VEHICLE PROGRAM.

(a) PROGRAM DIRECTION.—The Secretary shall carry out a program, in accordance with sections 3001 and 3002 of this Act, on techniques related to improving natural gas and other alternative fuel vehicle technology, including—

- (1) fuel injection;
- (2) carburetion;
- (3) manifolding;
- (4) combustion;
- (5) power optimization;
- (6) efficiency;
- (7) lubricants and detergents;
- (8) engine durability;
- (9) ignition, including fuel additives to assist ignition;
- (10) multifuel engines;
- (11) emissions control, including catalysts;
- (12) novel gas compression concepts;
- (13) advanced storage systems;
- (14) advanced gaseous fueling technologies; and
- (15) the incorporation of advanced materials in these

areas.

(b) COOPERATIVE AGREEMENTS AND ASSISTANCE.—The Secretary may enter into cooperative agreements with, and provide financial assistance to, public or private entities willing to provide 50 percent of the costs of a program to perform activities under subsection (a).

(c) DEFINITIONS.—For purposes of this section—

(1) the term “alternative fuel vehicle” means a motor vehicle that operates on alternative fuels; and

(2) the term “motor vehicle” includes any automobile, truck, bus, van, or other on-road or off-road motor vehicle, including a boat.

SEC. 2024. [42 U.S.C. 13434] BIOFUELS USER FACILITY.

(a) The Secretary shall establish a biofuels user facility to expedite industry adoption of biofuels technologies, including production of alcohol fuels from biomass.

(b) The Secretary, through such universities and colleges as the Secretary determines are qualified, shall establish a program, in accordance with sections 3001 and 3002 of this Act, with respect to the production and use of diesel fuels from vegetable oils or animal fats. The program shall investigate—

(1) the economic feasibility of production of oilseed crops for biofuels purposes; and

(2) the establishment of a mobile small-scale oilseed pressing and esterification unit and a stationary small-scale commercial oilseed pressing and esterification unit.

SEC. 2025. [42 U.S.C. 13435] ELECTRIC MOTOR VEHICLES AND ASSOCIATED EQUIPMENT RESEARCH AND DEVELOPMENT.

(a) GENERAL.—The Secretary shall conduct, pursuant to the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5901–5920), a research and development program on electric motor vehicles and associated equipment. Such program shall be conducted in cooperation with the electric utility industry, and automobile industry, battery manufacturers, and such other persons as the Secretary considers appropriate.

(b) COMPREHENSIVE PLAN.—(1) The Secretary shall prepare a comprehensive 5-year program plan for carrying out the purposes of this section. Such comprehensive plan shall be updated biennially for a period of not less than 10 years after the date of enactment of this Act.

(2) The comprehensive plan under paragraph (1) shall be prepared in consultation with the Administrator of the Environmental Protection Agency, the Secretary of Transportation, the Secretary of Commerce, the heads of other appropriate Federal agencies, representatives of the electric utility industry, electric motor vehicle manufacturers, the United States automobile industry, and such other persons as the Secretary considers appropriate.

(3) The comprehensive plan shall include—

(A) a prioritization of research areas critical to the commercialization of electric motor vehicles, including advanced battery technology;

(B) the program elements, management structure, and activities, including program responsibilities, of Federal agencies;

(C) the program strategies, including technical milestones to be achieved toward specific goals during each fiscal year of the comprehensive plan for all major activities and projects;

(D) the estimated costs of individual program elements, including estimated costs for each of the fiscal years of the comprehensive plan for each of the participating Federal agencies;

(E) a description of the methods of technology transfer;

(F) a proposal for participation by non-Federal entities in the implementation of the comprehensive plan; and

(G) such other information as the Secretary considers appropriate.

(4) Not later than 180 days after the date of enactment of this Act, the Secretary shall transmit the comprehensive plan to the Congress. Biennial updates shall be submitted to the Congress.

(c) COOPERATIVE AGREEMENTS.—The Secretary, consistent with the comprehensive plan under subsection (b), may enter into cooperative agreements to conduct research and development projects with industry in such areas of technology development as—

(1) high efficiency electric power trains, including advanced motors, motor controllers, and hybrid power trains for electric motor vehicle range improvement;

(2) light-weight structures for electric motor vehicle weight reduction;

(3) advanced batteries with high energy density and power density, and improved range or recharging cycles for a given unit weight, for electric motor vehicle application;

(4) hybrid power trains incorporating an electric motor and recyclable battery charged by an onboard liquid fuel engine, designed to significantly improve fuel economies while maintaining acceleration characteristics comparable to a conventionally fueled vehicle;

(5) batteries and fuel cells for electric-hybrid vehicle application;

(6) fuel cells and fuel cell systems for primary electric motor vehicle power sources; and

(7) photovoltaics for use with electric motor vehicles.

(d) SOLICITATION OF PROPOSALS.—(1) Within one year after the date of enactment of this Act, the Secretary shall solicit proposals for cooperative agreements for research and development under subsection (c).

(2) Thereafter, the Secretary may solicit additional proposals for cooperative agreements under subsection (c) if, in the judgment of the Secretary, such cooperative agreements could contribute to the development of electric motor vehicles and associated equipment.

(e) COST-SHARING.—(1) The Secretary shall require at least 50 percent of the costs directly and specifically related to any cooperative agreement under this section, other than a cooperative agreement under subsection (j), to be from non-Federal sources. Such share may be in the form of cash, personnel, services, equipment, and other resources.

(2) The Secretary may reduce the amount of costs required to be provided by non-Federal sources under paragraph (1), if the Secretary determines that the reduction is necessary and appropriate—

(A) considering the technological risks involved in the project; and

(B) in order to meet the objectives of this section.

(f) DEPLOYMENT.—(1) The Secretary shall conduct a program designed to accelerate deployment of advanced battery technologies for use with electric motor vehicles.

(2) In carrying out the program authorized by this subsection, the Secretary shall—

(A) undertake an inventory and assessment of advanced battery technologies and electric motor vehicle technologies and the commercial capability of such technologies; and

(B) develop a Federal industry information exchange program to improve the deployment or use of such technologies, which may consist of workshops, publications, conferences, and a data base for use by the public and private sectors.

(g) DOMESTIC PARTS MANUFACTURERS.—In carrying out this section, the Secretary, in consultation with the Secretary of Commerce, shall issue regulations to ensure that the procurement practices of participating electric motor vehicle and associated equipment manufacturers do not discriminate against the United States manufacturers of vehicle parts.

(h) HOLD HARMLESS.—Nothing in this section shall be construed to alter, affect, modify, or change any activities or agreements initiated prior to the date of enactment of this Act with domestic motor vehicle manufacturers through joint venture or consortium agreements regarding batteries for electric motor vehicles.

(i) CONSULTATION.—The Secretary shall consult with the Administrator of the Environmental Protection Agency and the Secretary of Transportation in carrying out this section.

(j) FUEL CELLS FOR TRANSPORTATION.—(1) The Secretary shall develop and implement a comprehensive program of research, development, and demonstration of fuel cells and related systems for transportation applications through the establishment of one or more cooperative programs among industry, government, and research institutions to develop and demonstrate the use of fuel cells as the primary power source for private and mass transit vehicles and other mobile applications.

(2) Research, development, and demonstration activities under this subsection shall be designed to incorporate one or more of the following priorities:

(A) The potential for near-term to mid-term commercialization.

(B) The ability of the systems to use a variety of renewable and nonfossil fuels.

(C) Emission reduction and energy conservation potential.

(D) The potential to utilize fuel cells and fuel cell systems developed under Department of Defense and National Aeronautics and Space Administration programs.

(E) The potential to take maximum practical advantage of advances made in electric motor vehicle research, stationary source fuel cell research, and other research activities authorized by this title.

(3)(A) Research, development, and demonstration projects selected by the Secretary under this subsection shall apply to—

(i) passenger vehicles;

(ii) vans and utility vehicles;

(iii) light rail systems and locomotives;

(iv) trucks, including long-haul trucks, dump trucks, and garbage trucks;

(v) passenger buses;

(vi) non-chlorofluorocarbon mobile refrigeration systems;

- (vii) marine vessels, including recreational marine engines;
or
(viii) mobile engines and power generation, including recreational generators, and industrial and construction equipment.

(B) The Secretary shall establish programs to undertake research, development, and demonstration activities for the applications listed in clauses (i) through (viii) of subparagraph (A) in each of fiscal years 1993, 1994, 1995, and 1996, based on the priorities established in paragraph (2), so that by the end of the period, research, development, and demonstration activities are under way for the applications under each such clause. The initiatives authorized and implemented pursuant to this subsection shall be in addition to any other fuel cell programs authorized in existing law.

(k) DEFINITIONS.—For purposes of this section—

(1) the term “advanced battery technology” means electrochemical storage devices and systems, including fuel cells, and associated technology necessary to charge, discharge, recharge, or regenerate such devices, for use as a source of power for an electric motor vehicle and any other associated equipment;

(2) the term “associated equipment” means equipment necessary for the regeneration, refueling, or recharging of batteries or other forms of electric energy used to power an electric motor vehicle and, in the case of electric-hybrid vehicles, such term includes nonpetroleum-related equipment necessary for, and solely related to, the demonstration of such vehicles;

(3) the term “electric motor vehicle” means a motor vehicle primarily powered by an electric motor that draws current from rechargeable storage batteries, fuel cells, photovoltaic arrays, or other sources of electric current and may include an electric-hybrid vehicle; and

(4) the term “electric-hybrid vehicle” means vehicle primarily powered by an electric motor that draws current from rechargeable storage batteries, fuel cells, or other sources of electric current and also relies on a nonelectric source of power that also operates on or is capable of operating on a nonelectrical source of power.

[Section 2026 repealed by section 103(b)(2) of Public Law 104-271 (110 Stat. 3306).]

SEC. 2027. [42 U.S.C. 13437] ADVANCED DIESEL EMISSIONS PROGRAM.

(a) PROGRAM DIRECTION.—The Secretary shall initiate a 5-year program, in accordance with sections 3001 and 3002 of this Act, on diesel engine combustion and engine systems, related advanced materials, and fuels and lubricants to reduce emissions oxides of nitrogen and particulates. Activities conducted under this program shall supplement activities of a similar nature at the Department of Energy. Such program shall include field demonstrations of sufficient scale and number in operating environments to prove technical and economic viability to meet the goal stated in subsection (b).

(b) PROGRAM GOAL.—The goal of the program established under subsection (a) shall be to accelerate the ability of United States diesel manufacturers to meet current and future oxides of nitrogen and particulate emissions requirements.

(c) **PROGRAM PLAN.**—Within 180 days after the date of enactment of this Act, the Secretary, in consultation with appropriate representatives of industry, institutions of higher education, Federal agencies, including national laboratories, and professional and technical societies, shall prepare and submit to the Congress a 5-year program plan to guide the activities under this section. Such plan shall be included as part of the plan required by section 2021(b).

(d) **SOLICITATION OF PROPOSALS.**—Within 1 year after the date of enactment of this Act, the Secretary shall solicit proposals for conducting activities consistent with the 5-year program plan.

SEC. 2028. [42 U.S.C. 13438] TELECOMMUTING STUDY.

(a) **STUDY.**—The Secretary, in consultation with the Secretary of Transportation, shall conduct a study of the potential costs and benefits to the energy and transportation sectors of telecommuting. The study shall include—

- (1) an estimation of the amount and type of reduction of commuting by form of transportation type and numbers of commuters;
- (2) an estimation of the potential number of lives saved;
- (3) an estimation of the reduction in environmental pollution, in consultation with the Environmental Protection Agency;
- (4) an estimation of the amount and type of reduction of energy use and savings by form of transportation type; and
- (5) an estimation of the social impact of widespread use of telecommuting.

(b) This study shall be completed no more than one hundred and eighty days after the date of enactment of this Act. A report, summarizing the results of the study, shall be transmitted to the United States House of Representatives and the Committee on Energy and Natural Resources of the United States Senate no more than sixty days after completion of this study.

TITLE XXI—ENERGY AND ENVIRONMENT

Subtitle A—Improved Energy Efficiency

SEC. 2101. [42 U.S.C. 13451] GENERAL IMPROVED ENERGY EFFICIENCY.

(a) **PROGRAM DIRECTION.**—The Secretary shall conduct a 5-year program, in accordance with sections 3001 and 3002 of this Act, on cost effective technologies to improve energy efficiency and increase the use of renewable energy in the buildings, industrial, and utility sectors. Such program shall include a broad range of technological approaches, and shall include field demonstrations of sufficient scale and number to prove technical and economic viability to meet the goals stated in section 2001. Such program shall include the activities required under sections 2102, 2103, 2104, 2105, 2106, 2107, and 2108 and ongoing activities of a similar nature at the Department of Energy. Such program shall also include the activities conducted pursuant to the Steel and Aluminum Energy Conservation and Technology Competitiveness Act of 1988 (Public Law 100-680)

and the Department of Energy Metal Casting Competitiveness Research Act of 1990 (Public Law 101-425).

(b) PROGRAM GOALS.—The goals of the program established under subsection (a) shall include—

(1) in the buildings sector—

(A) to accelerate the development of technologies that will increase energy efficiency;

(B) to increase the use of renewable energy; and

(C) to reduce environmental impacts;

(2) in the industrial sector—

(A) to accelerate the development of technologies that will increase energy efficiency in order to improve productivity;

(B) to increase the use of renewable energy; and

(C) to reduce environmental impacts; and

(3) in the utility sector—

(A) to accelerate the development of technologies that will increase energy efficiency; and

(B) to increase the use of integrated resource planning.

(c) PROGRAM PLAN.—Within 180 days after the date of enactment of this Act, the Secretary shall prepare and submit to the Congress a 5-year program plan to guide activities under this subtitle. In preparing the program plan, the Secretary shall consult with appropriate representatives of industry, utilities, institutions of higher education, Federal agencies, including national laboratories, and professional and technical societies.

(d) PROPOSALS.—Within 1 year after the date of enactment of this Act, the Secretary shall solicit proposals for conducting activities under this section.

(e) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary for carrying out this subtitle, including all building, industry, and utility sectors energy conservation research and development, and inventions and innovation under energy conservation technical and financial assistance, \$178,250,000 for fiscal year 1993 and \$275,000,000 for fiscal year 1994.

SEC. 2102. [42 U.S.C. 13452] NATURAL GAS AND ELECTRIC HEATING AND COOLING TECHNOLOGIES.

(a) PROGRAM DIRECTION.—(1) The Secretary shall conduct a 5-year program, in accordance with sections 3001 and 3002 of this Act, on energy efficient natural gas and electric heating and cooling technologies for residential and commercial buildings.

(2) The natural gas heating and cooling program shall include activities on—

(A) thermally activated heat pumps, including absorption heat pumps and engine-driven heat pumps; and

(B) other advanced natural gas technologies, including fuel cells for residential and commercial applications.

(3) The electric heating and cooling program shall focus on—

(A) advanced heat pumps;

(B) thermal storage; and

(C) advanced electric HVAC (heating, ventilating, and air conditioning) and refrigeration systems that utilize replacements for chlorofluorocarbons.

(b) PROPOSALS.—Within 180 days after the date of enactment of this Act, the Secretary shall solicit proposals for conducting activities under this section.

SEC. 2103. [42 U.S.C. 13453] PULP AND PAPER.

(a) PROGRAM DIRECTION.—The Secretary shall conduct a 5-year program, in accordance with sections 3001 and 3002 of this Act, on advanced pulp and paper technologies. Such program shall include activities on energy generation technologies, boilers, combustion processes, pulping processes (excluding de-inking), chemical recovery, causticizing, source reduction processes, and other related technologies that can improve the energy efficiency of, and reduce the adverse environmental impacts of, pulp and papermaking operations. This section does not authorize projects involving the combustion of waste paper, other than gasification.

(b) PROPOSALS.—Within 180 days after the date of enactment of this Act, the Secretary shall solicit proposals for conducting activities under this section.

SEC. 2104. [42 U.S.C. 13454] ADVANCED BUILDINGS FOR 2005.

(a) PROGRAM DIRECTION.—The Secretary shall initiate a 5-year program, in accordance with sections 3001 and 3002 of this Act, to increase building energy efficiency, while maintaining affordability, by the year 2005. Such program shall include activities on—

- (1) building design, design methods, and construction techniques;
- (2) building materials, including recycled materials, and components;
- (3) on-site energy supply conversion systems such as photovoltaics;
- (4) automated energy management systems;
- (5) methods of evaluating performance; and
- (6) insulation products manufactured with nonozone depleting materials.

(b) PROPOSALS.—

(1) SOLICITATION.—Within 1 year after the date of enactment of this Act, the Secretary shall solicit proposals for conducting activities under this section.

(2) CONTENTS OF PROPOSALS.—Proposals submitted under this subsection shall include and be judged upon—

- (A) evidence of knowledge of current building practices in the United States and in other countries;
- (B) an explanation of how the proposal will encourage the commercialization of the technologies resulting from activities in subsection (a);
- (C) evidence of consideration of collaboration with Department of Energy national laboratories;
- (D) evidence of collaboration with relevant industry or other groups or organizations; and
- (E) a demonstration of the ability of the proposers to undertake and complete the project proposed.

SEC. 2105. [42 U.S.C. 13455] ELECTRIC DRIVES.

(a) PROGRAM.—The Secretary shall conduct a 5-year program, in accordance with sections 3001 and 3002 of this Act, to increase the efficiency of electric drive technologies, including adjustable speed drives, high speed motors, and high efficiency motors.

(b) PROPOSALS.—Within 1 year after the date of enactment of this Act, the Secretary shall solicit proposals for projects under this section.

SEC. 2106. STEEL, ALUMINUM, AND METAL RESEARCH.

(a) STEEL AMENDMENTS.—The Steel and Aluminum Energy Conservation and Technology Competitiveness Act of 1988 is amended—

(1) in section 4(b)(5), by striking “Industrial Programs” and inserting in lieu thereof “Industrial Technologies”;

(2) in section 8, by inserting at the end the following new sentence: “The reports submitted at the close of fiscal years 1993, 1995, and 1997 shall also contain a complete summary of activities under the management plan and the research plan from the first year of their operation, along with an analysis of the extent to which they have succeeded in accomplishing the purposes of this Act.”;

(3) in section 9(a)(1), by striking “and \$25,000,000 for fiscal year 1991” and inserting in lieu thereof “\$25,000,000 for fiscal year 1991, \$17,968,000 for fiscal year 1992, and \$18,091,000 for each of the fiscal years 1993 through 1997, to be derived from sums authorized under section 2101(e) of the Energy Policy Act of 1992”;

(4) in section 9(b), by striking “and 1991” and inserting in lieu thereof “1991, 1992, 1993, 1994, 1995, 1996, and 1997, to be derived from sums otherwise authorized to be appropriated to the Institute”; and

(5) in section 11(a), by striking “or fiscal year 1991” both places it appears and inserting in lieu thereof “fiscal year 1991, fiscal year 1992, fiscal year 1993, fiscal year 1994, fiscal year 1995, fiscal year 1996, and fiscal year 1997”.

(b) METAL CASTING AMENDMENT.—Section 8 of the Department of Energy Metal Casting Competitiveness Research Act of 1990 (Public Law 101-425) is amended by striking “and 1993” and inserting in lieu thereof “1993, 1994, 1995, 1996, and 1997, to be derived from such sums as are otherwise authorized under section 2101(e) of the Energy Policy Act of 1992”.

SEC. 2107. [42 U.S.C. 13456] IMPROVING EFFICIENCY IN ENERGY-INTENSIVE INDUSTRIES.

(a) SECRETARIAL ACTION.—The Secretary, in accordance with sections 3001 and 3002 of this Act, shall—

(1) pursue a research, development, demonstration and commercial application program intended to improve energy efficiency and productivity in energy-intensive industries and industrial processes; and

(2) undertake joint ventures to encourage the commercialization of technologies developed under paragraph (1).

(b) JOINT VENTURES.—(1) The Secretary shall—

(A) conduct a competitive solicitation for proposals from private firms and investors for such joint ventures under subsection (a)(2); and

(B) provide financial assistance to at least five such joint ventures.

(2) The purpose of the joint ventures shall be to design, test, and demonstrate changes to industrial processes that will result in

improved energy efficiency and productivity. The joint ventures may also demonstrate other improvements of benefit to such industries so long as demonstration of energy efficiency improvements is the principal objective of the joint venture.

(3) In evaluating proposals for financial assistance and joint ventures under this section, the Secretary shall consider—

(A) whether the activities conducted under this section improve the quality and energy efficiency of industries or industrial processes;

(B) the regional distribution of the energy-intensive industries and industrial processes; and

(C) whether the proposed joint venture project would be located in the region which has the energy-intensive industry and industrial processes that would benefit from the project.

SEC. 2108. [42 U.S.C. 13457] ENERGY EFFICIENT ENVIRONMENTAL PROGRAM.

(a) **PROGRAM DIRECTION.**—The Secretary, in consultation with the Administrator of the Environmental Protection Agency, is authorized to continue to carry out a 5-year program to improve the energy efficiency and cost effectiveness of pollution prevention technologies and processes, including source reduction and waste minimization technologies and processes. The purposes of this section shall be to—

(1) apply a systems approach to minimizing adverse environmental effects of industrial production in the most cost effective and energy efficient manner; and

(2) incorporate consideration of the entire materials and energy cycle with the goal of minimizing adverse environmental impacts.

(b) **IDENTIFICATION OF OPPORTUNITIES.**—Within 9 months after the date of enactment of this Act, the Secretary, in consultation with the Administrator of the Environmental Protection Agency, shall identify opportunities for the demonstration of energy efficient pollution prevention technologies and processes.

(c) **REPORT.**—Within 1 year after the date of enactment of this Act, the Secretary shall submit a report to Congress evaluating the opportunities identified under subsection (b). Such report shall include—

(1) an assessment of the technologies available to increase productivity and simultaneously reduce the consumption of energy and material resources and the production of wastes;

(2) an assessment of the current use of such technologies by industry in the United States;

(3) the status of any such technologies currently being developed, together with projected schedules of their commercial availability;

(4) the energy savings resulting from the use of such technologies;

(5) the environmental benefits of such technologies;

(6) the costs of such technologies;

(7) an evaluation of any existing Federal or State regulatory disincentives for the employment of such technologies; and

(8) an evaluation of any other barriers to the use of such technologies.

In preparing the report required by this subsection, the Secretary shall consult with the Administrator of the Environmental Protection Agency, any other Federal, State, or local official the Secretary considers necessary, representatives of appropriate industries, members of organizations formed to further the goals of environmental protection or energy efficiency, and other appropriate interested members of the public, as determined by the Secretary.

(d) PROPOSALS.—Within 1 year after the date of enactment of this Act, the Secretary, in consultation with the Administrator of the Environmental Protection Agency, shall solicit proposals for activities under this section. Proposals selected under this subsection shall demonstrate—

- (1) technical viability and cost effectiveness; and
- (2) procedures for technology transfer and information outreach during and after completion of the project.

Subtitle B—Electricity Generation and Use

SEC. 2111. [42 U.S.C. 13471] RENEWABLE ENERGY.

(a) PROGRAM DIRECTION.—The Secretary shall conduct a comprehensive 5-year program, in accordance with sections 3001 and 3002 of this Act, to provide cost-effective options for the generation of electricity from renewable energy sources for grid and nongrid application, including field demonstrations of sufficient scale and number in operating environments to prove technical and economic feasibility for providing cost effective generation and for meeting the goal stated in section 2001(3) and section 1602(a)(4).

(b) PROGRAM PLAN.—Within 180 days after the date of enactment of this Act, the Secretary shall prepare and submit to the Congress a 5-year program plan to guide the activities under this section. In preparing the program plan, the Secretary shall consult with appropriate representatives of industry, institutions of higher education, Federal agencies, including national laboratories, and professional and technical societies.

(c) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary for carrying out this section, including all solar energy programs (other than activities under section 2021), geothermal systems, electric energy systems, and energy storage systems, \$208,975,000 for fiscal year 1993 and \$275,000,000 for fiscal year 1994.

SEC. 2112. [42 U.S.C. 13472] HIGH EFFICIENCY HEAT ENGINES.

(a) PROGRAM DIRECTION.—The Secretary shall conduct a 5-year program, in accordance with sections 3001 and 3002 of this Act, to improve the efficiency of heat engines. Such program shall—

- (1) include field demonstrations of sufficient scale and number so as to demonstrate technical and economic feasibility;
- (2) incorporate materials that increase engine efficiency; and
- (3) cover advanced engine designs for electric and industrial power generation for a range of small-, mid-, and large-scale applications, including—

(A) mechanically recuperated gas turbines;

(B) intercooled gas turbines with steam injection or recuperation;

(C) gas turbines utilizing reformed fuels or hydrogen; and

(D) high efficiency, simple cycle gas turbines.

(b) PROGRAM GOAL.—The goal of the program established under subsection (a) shall be to develop heat engines that can achieve over 50 percent efficiency in the mid-term.

(c) PROGRAM PLAN.—Within 180 days after the date of enactment of this Act, the Secretary shall prepare and submit to the Congress a 5-year program plan, to be included in the plan required under section 2101(c), to guide the activities under this section. In preparing the program plan, the Secretary shall consult with appropriate representatives of industry, institutions of higher education, Federal agencies, including the Environmental Protection Agency and national laboratories, and professional and technical societies.

(d) PROPOSALS.—Within 1 year after the date of enactment of this Act, the Secretary shall solicit proposals for conducting activities under this section.

(e) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary for carrying out this section such sums as may be necessary to be derived from sums authorized under section 2101(e).

SEC. 2113. [42 U.S.C. 13473] CIVILIAN NUCLEAR WASTE.

(a) STUDY.—The Secretary shall conduct a study of the potential for minimizing the volume and toxic lifetime of nuclear waste, including an analysis of the viability of existing technologies and an assessment of the extent of research and development required for new technologies.

(b) PROGRAM.—Based on the results of the study required under subsection (a), the Secretary shall prepare and submit to Congress a 5-year program plan for carrying out a program of research and development on new technologies for minimizing the volume and toxic lifetime of, and thereby mitigating hazards associated with, nuclear waste.

(c) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary for carrying out this section \$4,700,000 for fiscal year 1993 and such sums as may be necessary for fiscal year 1994.

SEC. 2114. [42 U.S.C. 13474] FUSION ENERGY.

(a) PROGRAM.—The Secretary shall conduct a fusion energy 5-year program, in accordance with sections 3001 and 3002 of this Act, that by the year 2010 will result in a technology demonstration which verifies the practicability of commercial electric power production.

(b) PROGRAM GOALS.—The goals of the program established under subsection (a) shall include—

(1) a broad based fusion energy program;

(2) United States participation in the Engineering Design Activity of the International Thermonuclear Experimental Reactor (ITER) program and in the related research and technology development efforts;

(3) the development of technology for fusion power and industrial participation in the development of such technology;

(4) the design and construction of a major new machine for fusion research and technology development consistent with paragraphs (2) and (3); and

(5) research and development for Inertial Confinement Fusion Energy and development of a Heavy Ion Inertial Confinement Fusion experiment.

(c) **MANAGEMENT PLAN.**—(1) Within 180 days after the date of enactment of this Act, the Secretary shall prepare a comprehensive management plan for the fusion energy program. The plan shall include specific program objectives, milestones and schedules for technology development, and cost estimates and program management resource requirements.

(2) The plan shall also include a description of—

(A) United States participation in the Engineering Design Activity of ITER, including industrial participation;

(B) potential United States participation in the construction and operation of an ITER facility; and

(C) the requirements needed to build and test an inertial fusion energy reactor for the purpose of power production.

(3) As part of the plan required under paragraph (1), the Secretary shall evaluate the status of international fusion programs and evaluate whether the Federal Government should initiate efforts to strengthen existing international cooperative agreements in fusion energy or enter into new cooperative agreements to accomplish the purposes of this section.

(4) The plan shall also evaluate the extent to which university or private sector participation is appropriate or necessary in order to carry out the purposes of this section.

(5) The President shall include in the budget submitted to the Congress each year under section 1105 of title 31, United States Code, a report prepared by the Secretary describing the progress made in meeting the program objectives, milestones, and schedules established in the management plan. Each such report shall also describe the organization of the program, the personnel assigned and funds committed to the program, and expenditures made in carrying out the program objectives. The report shall be submitted with the plan required under section 2304.

(d) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to the Secretary for carrying out this section \$339,710,000 for fiscal year 1993 and \$380,000,000 for fiscal year 1994.

SEC. 2115. [42 U.S.C. 13475] FUEL CELLS.

(a) **PROGRAM DIRECTION.**—The Secretary shall conduct a 5-year program, in accordance with sections 3001 and 3002 of this Act, on efficient and environmentally benign power generation using fuel cells. The program may include activities on molten carbonate, solid oxide, including tubular, monolithic, and planar technologies, and advanced concepts.

(b) **PROGRAM GOAL.**—The goal of the program established under subsection (a) is the development of cost-effective, efficient, and environmentally benign fuel cell systems which will operate on fossil fuels in multiple end use sectors.

(c) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to the Secretary for carrying out this section \$51,555,000 for fiscal year 1993 and \$56,000,000 for fiscal year 1994.

SEC. 2116. [42 U.S.C. 13476] ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT PROGRAM.

(a) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to the Secretary for fiscal year 1993 \$70,000,000 for the Fast Flux Test Facility to maintain the operational status of the reactor, such sums to be derived from amounts appropriated to the Secretary for the environmental restoration and waste management program.

(b) **LONG-TERM MISSIONS.**—The Secretary shall aggressively pursue the development and implementation of long-term missions for the Fast Flux Test Facility. Within 6 months after the date of enactment of this Act, the Secretary shall submit to the Congress a report on the progress made in carrying out this subsection.

SEC. 2117. [42 U.S.C. 13477] HIGH-TEMPERATURE SUPERCONDUCTIVITY PROGRAM.

(a) **PROGRAM.**—The Secretary shall carry out a 5-year program, in accordance with sections 3001 and 3002 of this Act, on high-temperature superconducting electric power equipment technologies. Elements of the program shall include, but are not limited to—

(1) activities that address the development of high-temperature superconducting materials that have increased electrical current capacity, which shall be the emphasis of the program for the near-term;

(2) the development of prototypes, where appropriate, of the major elements of a superconducting electric power system such as motors, generators, transmission lines, transformers, and magnetic energy storage systems;

(3) activities that will improve the efficiency of materials performance of higher temperatures and at all magnetic field orientations;

(4) development of prototypes based on high-temperature superconducting wire, that operate at the highest temperature possible, and refrigeration systems using cryogenics such as nitrogen;

(5) activities that will assist the private sector with designs for more efficient electric power generation and delivery systems which are cost competitive with conventional energy systems; and

(6) development of prototypes that have application in both the commercial and defense sectors.

The Secretary is also encouraged to expedite government, laboratory, industry, and university collaborative agreements under existing mechanisms at the Department of Energy in coordination with other Federal agencies.

(b) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to the Secretary for carrying out this section \$21,900,000 for fiscal year 1993 and such sums as may be necessary for subsequent fiscal years, to be derived from sums authorized under section 2111(c).

SEC. 2118. [42 U.S.C. 13478] ELECTRIC AND MAGNETIC FIELDS RESEARCH AND PUBLIC INFORMATION DISSEMINATION PROGRAM.

(a) PROGRAM.—The Secretary shall, in accordance with this section (including the agenda developed under subsection (d)(1)(A)) and within 2 months after the date of the enactment of this Act, establish a comprehensive program to—

(1) determine whether or not exposure to electric and magnetic fields produced by the generation, transmission, and use of electric energy affects human health;

(2) carry out research, development, and demonstration with respect to technologies to mitigate any adverse human health effects; and

(3) provide for dissemination of information described in subsection (b)(1) to the public.

(b) CONTENTS.—The program shall provide for—

(1) collection, compilation, publication, and dissemination of scientifically valid information on—

(A) possible human health effects of electric and magnetic fields;

(B) the types and extent of human exposure to electric and magnetic fields in various occupational and residential settings;

(C) technologies to measure and characterize electric and magnetic fields; and

(D) methods to assess and manage exposure to electric and magnetic fields;

(2)(A) research on mechanisms by which electric and magnetic fields interact with biological systems; and

(B) epidemiological research on the possible human health effects of electric and magnetic fields; and

(3) research, development, and demonstration with respect to—

(A) technologies to improve the measurement and characterization of electric and magnetic fields; and

(B) techniques to assess and manage exposure to electric and magnetic fields.

(c) ROLE OF THE DIRECTOR.—

(1) ROLE OF THE DIRECTOR.—The Secretary of Health and Human Services, acting through the Director, shall have sole responsibility under the program for research on possible human health effects of electric and magnetic fields. The Director may delegate this responsibility to the extent the Director determines appropriate.

(2) AGREEMENT.—Within 6 months after the date of the enactment of this Act, the Secretary shall enter into an agreement with the Secretary of Health and Human Services to carry out, through the Director, the information activities under subsection (b)(1)(A) and the research under subsection (b)(2).

(3) ACTIONS OF THE DIRECTOR.—The actions of the Director in carrying out research and information responsibilities under this section shall not be subject to approval by the Secretary.

(4) TRANSFER OF FUNDS.—The Secretary is authorized, subject to appropriations Acts, to transfer funds to the Director to carry out the Director's responsibilities under paragraph (2).

(5) REPORT.—The Director shall report, by June 1, 1995, and by March 31, 1998, and as appropriate, to the Interagency Committee established under subsection (d) and to Congress the findings and conclusions of the Director on the extent to which exposure to electric and magnetic fields produced by the generation, transmission, or use of electric energy affects human health.

(d) INTERAGENCY COMMITTEE.—

(1) The President shall, within 2 months after the date of the enactment of this Act, establish the Electric and Magnetic Fields Interagency Committee to—

(A) develop within 8 months after the date of the enactment of this Act a comprehensive agenda for conducting research, development, and demonstration under the program, with particular emphasis on electric and magnetic fields of the 60 hertz frequency;

(B) develop recommendations, within 8 months after the date of the enactment of this Act, for guidelines for the coordination of activities of Federal agencies engaged in research on human health effects of electric and magnetic fields that ensure that such research advances the agenda under subparagraph (A) and is not unnecessarily duplicative of other research activities;

(C) develop recommendations, within 8 months after the date of the enactment of this Act, for mechanisms for communication of the results of the program to the public, including recommendations on the scope and nature of the information to be disseminated; and

(D) monitor, review and periodically evaluate the program.

(2)(A) The Interagency Committee shall be composed of 9 members with 1 member to be appointed from each of the following:

- (i) The Department of Energy.
- (ii) The National Institute of Environmental Health Sciences.
- (iii) The Environmental Protection Agency.
- (iv) The Department of Defense.
- (v) The Occupational Safety and Health Administration.
- (vi) The National Institute of Standards and Technology.
- (vii) The Department of Transportation.
- (viii) The Rural Electrification Administration.
- (ix) The Federal Energy Regulatory Commission.

(B) The Interagency Committee shall elect a chairperson from among its members who shall be responsible for ensuring that the duties of the Interagency Committee are carried out.

(C) Agencies that have members on the Interagency Committee shall provide appropriate staff to carry out the duties of the Interagency Committee.

(e) ADVISORY COMMITTEE.—

(1) Not later than 2 months after the date of the enactment of this Act, the Secretary of Health and Human Services and the Secretary shall establish the National Electric and Magnetic Fields Advisory Committee in accordance with the Federal Advisory Committee Act and this section.

(2) The Advisory Committee shall make recommendations to the Interagency Committee with respect to the duties of the Interagency Committee under subsection (d)(1) and advise the Secretary and the Director with respect to the design and implementation of the program, including preparation of solicitations for proposals to conduct research under the program.

(3) The Advisory Committee shall be composed of 10 members, chosen from among experts in possible human health effects of electric and magnetic fields, experts in the measurement and characterization of electric and magnetic fields, experts in the assessment and management of electric and magnetic fields, State regulatory agencies, State health agencies, electric utilities, electric equipment manufacturers, labor unions and the public. Five members shall be chosen by the Secretary of Health and Human Services in consultation with the Director, and 5 members shall be chosen by the Secretary.

(4) The Advisory Committee shall elect a chairperson from among its members who shall be responsible for ensuring that the duties of the Advisory Committee are carried out.

(5) The Advisory Committee shall terminate not later than December 31, 1998.

(f) FINANCIAL ASSISTANCE.—

(1) The Secretary and the Director may provide financial assistance and enter into contracts to conduct activities under the program.

(2) The Secretary shall solicit contributions from non-Federal sources to offset at least 50 percent of the total funding for all activities under the program. The Secretary shall adopt procedures, including a mechanism for collecting contributions, that ensures that no contributor of non-Federal funds may influence the program.

(3) The Secretary may not obligate funds under this section in any fiscal year unless funds received from non-Federal sources under paragraph (2) are available to offset at least 50 percent of the appropriations made under subsection (j) for such fiscal year.

(4) SOLICITATION AND SELECTION OF PROPOSALS.—

(A) IN GENERAL.—Within 15 months after the date of the enactment of this Act, and as often thereafter as appropriate, the Secretary and the Director shall, in consultation with the Interagency Committee, solicit and select proposals to conduct activities under the program.

(B) CONSULTATION WITH ADVISORY COMMITTEE.—In preparing solicitations for proposals to conduct activities, the Secretary and the Director shall consult with the Advisory Committee.

(C) PEER REVIEW PANELS.—Before a proposal to conduct activities under the program may be selected by the Secretary or the Director, such proposal must be submitted

to, and evaluated by, at least one scientific and technical peer review panel.

(g) REPORTS.—

(1) REPORT UPON COMPLETION OF ACTIVITY.—Any person who conducts activities under the program shall, upon completion of the activity, submit to the National Academy of Sciences, the Interagency Committee, and the Advisory Committee a report summarizing the activities and results thereof.

(2) REPORT TO INTERAGENCY COMMITTEE AND ADVISORY COMMITTEE.—The Secretary shall enter into appropriate arrangements with the National Academy of Sciences under which the Academy shall periodically submit to the Interagency Committee and the Advisory Committee a report that evaluates the research activities under the program. The report shall include recommendations to promote the effective transfer of information derived from such research projects, including the transfer to representatives of State regulatory agencies, State health agencies, electric utilities, electrical equipment manufacturers, labor unions, and the public. The Secretary shall be responsible for expenses incurred by the Academy in connection with the preparation of such reports.

(3) REPORT TO CONGRESS.—The Interagency Committee, in consultation with the Advisory Committee, shall submit to the Secretary and the Congress—

(A) not later than December 31, 1995, a report summarizing the progress of the research program established under this subsection; and

(B) not later than September 30, 1998, a final report stating the Committee's findings and conclusions on the effects, if any, of electric and magnetic fields on human health and remedial actions, if any, that may be needed to minimize any such health effects.

(h) CONFLICTS OF INTEREST.—The Secretary and the Director shall include conflict of interest provisions in any grant or other funding provided, or contract entered into, under the research program established under this section including provisions—

(1) that require any person conducting a project under such program to disclose any other source of funding received by the person to conduct other related projects, including funding received from consulting on issues relating to electric and magnetic fields; and

(2) that prohibit a person who has been awarded a grant or contract under this program from receiving compensation beyond expenses for testifying in a court of law as an expert on the specific research the person is conducting under such grant or contract.

(i) DEFINITIONS.—For purposes of this section:

(1) The term "Advisory Committee" means the National Electric and Magnetic Fields Advisory Committee established under subsection (e).

(2) The term "Interagency Committee" means the Electric and Magnetic Fields Interagency Committee established under subsection (d).

(3) The term "Director" means the Director of the National Institute of Environmental Health Sciences.

(4) The term "program" means the electric and magnetic fields research and public information dissemination program established in subsection (a).

(5) The term "State" means each of the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, Guam, the Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands, and any other commonwealth, territory, or possession of the United States.

(j) AUTHORIZATION OF APPROPRIATIONS.—

(1) GENERAL AUTHORIZATION.—There are authorized to be appropriated to the Secretary a total of \$46,000,000 for the period encompassing fiscal years 1993 through 1998 to carry out the provisions of this section, except that not more than \$1,000,000 may be expended in any such fiscal year for activities under subsection (b)(1). Any amounts appropriated pursuant to this paragraph shall remain available until expended.

(2) RESTRICTIONS ON USE OF FUNDS.—

(A) ADMINISTRATIVE EXPENSES OF CERTAIN FUNDING RECIPIENTS.—Of the total funds provided to any institution under this section, the amount of such funds that may be used for the administrative indirect costs of the institution may not exceed 26 percent of the modified direct costs of the project.

(B) ADMINISTRATIVE EXPENSES OF THE SECRETARY AND THE DIRECTOR.—Of the total amount of funds made available under this section for any fiscal year, not more than 10 percent of such funds may be used for authorized administrative expenses of the Secretary and the Director in carrying out this section.

(C) CONSTRUCTION AND REHABILITATION OF FACILITIES AND EQUIPMENT.—Funds made available under this section may not be used for the construction or rehabilitation of facilities or fixed equipment.

(k) SENSE OF CONGRESS.—It is the sense of the Congress that remedial action taken by the Government on electric and magnetic fields, if and as necessary, should be based on, and consistent with, scientifically valid research such as the results and findings of the research authorized by this Act.

(l) SUNSET PROVISION.—All authority under this section shall expire on December 31, 1998.

SEC. 2119. [42 U.S.C. 13479] SPARK M. MATSUNAGA RENEWABLE ENERGY AND OCEAN TECHNOLOGY CENTER.

(a) FINDINGS.—The Congress finds that—

(1) the late Spark M. Matsunaga, United States Senator from Hawaii, was a longstanding champion of research and development of renewable energy, particularly wind and ocean energy, photovoltaics, and hydrogen fuels;

(2) it was Senator Matsunaga's vision that renewable energy could provide a sustained source of non-polluting energy and that such forms of alternative energy might ultimately be employed in the production of liquid hydrogen as a transportation fuel and energy storage medium available as an energy export;

(3) Senator Matsunaga also believed that research on other aspects of renewable energy and ocean resources, such as advanced materials, could be crucial to full development of energy storage and conversion systems; and

(4) Keahole Point, Hawaii is particularly well-suited as a site to conduct renewable energy and associated marine research.

(b) PURPOSE.—It is the purpose of this section to establish the facilities and equipment located at Keahole Point, Hawaii as a cooperative research and development facility, to be known as the Spark M. Matsunaga Renewable Energy and Ocean Technology Center.

(c) ESTABLISHMENT.—The facilities and equipment located at Keahole Point, Hawaii are established as the Spark M. Matsunaga Renewable Energy and Ocean Technology Center (in this section referred to as the “Center”).

(d) ADMINISTRATION.—(1) Not later than 180 days after the date of enactment of this Act, the Secretary may authorize a cooperative agreement with a qualified research institution to administer the Center.

(2) For the purpose of paragraph (1), a qualified research institution is a research institution located in the State of Hawaii that has demonstrated competence and will be the lead organization in the State in renewable energy and ocean technologies.

(e) ACTIVITIES.—The Center may carry out research, development, educational, and technology transfer activities on—

(1) renewable energy;

(2) energy storage, including the production of hydrogen from renewable energy;

(3) materials applications related to energy and marine environments;

(4) other environmental and ocean research concepts, including sea ranching and global climate change; and

(5) such other matters as the Secretary may direct.

(f) MATCHING FUNDS.—To be eligible for Federal funds under this section, the Center must provide funding in cash or in kind from non-Federal sources for each amount provided by the Secretary.

(g) AUTHORIZATION.—There is authorized to be appropriated to the Secretary for carrying out this section such sums as may be necessary, to be derived from sums authorized under section 2111(c).

Subtitle C—Advanced Nuclear Reactors

SEC. 2121. [42 U.S.C. 13491] PURPOSES AND DEFINITIONS.

(a) PURPOSES.—The purposes of this subtitle are—

(1) to require the Secretary to carry out civilian nuclear programs in a way that will lead toward the commercial availability of advanced nuclear reactor technologies; and

(2) to authorize such activities to further the timely availability of advanced nuclear reactor technologies, including technologies that utilize standardized designs or exhibit passive safety features.

(b) DEFINITIONS.—For purposes of this subtitle—

(1) the term “advanced nuclear reactor technologies” means—

(A) advanced light water reactors that may be commercially available in the near-term, including but not limited to mid-sized reactors with passive safety features for the generation of commercial electric power from nuclear fission; and

(B) other advanced nuclear reactor technologies that may require prototype demonstration prior to commercial availability in the mid- or long-term, including but not limited to high-temperature, gas-cooled reactors and liquid metal reactors, for the generation of commercial electric power from nuclear fission;

(2) the term “Commission” means the Nuclear Regulatory Commission;

(3) the term “standardized design” means a design for a nuclear power plant that may be utilized for a multiple number of units or a multiple number of sites; and

(4) the term “certification” means approval by the Commission of a standardized design.

SEC. 2122. [42 U.S.C. 13492] PROGRAM, GOALS, AND PLAN.

(a) PROGRAM DIRECTION.—The Secretary shall conduct a program to encourage the deployment of advanced nuclear reactor technologies that to the maximum extent practicable—

(1) are cost effective in comparison to alternative sources of commercial electric power of comparable availability and reliability, taking into consideration life cycle environmental costs;

(2) facilitate the design, licensing, construction, and operation of a nuclear powerplant using a standardized design;

(3) exhibit enhanced safety features; and

(4) incorporate features that advance the objectives of the Nuclear Non-Proliferation Act of 1978.

(b) PROGRAM GOALS.—The goals of the program established under subsection (a) shall include—

(1) for the near-term—

(A) to facilitate the completion, by September 30, 1996, for certification by the Commission, of standardized advanced light water reactor technology designs that the Secretary determines have the characteristics described in subsection (a) (1) through (4);

(B) to facilitate the completion of submissions, by September 30, 1996, for preliminary design approvals by the Commission of standardized designs for the modular high-temperature gas-cooled reactor technology and the liquid metal reactor technology; and

(C) to evaluate by September 30, 1996, actinide burn technology to determine if it can reduce the volume of long-lived fission byproducts;

(2) for the mid-term—

(A) to facilitate increased efficiency of enhanced safety, advanced light water reactors to produce electric power at the lowest cost to the customer;

(B) to develop advanced reactor concepts that are passively safe and environmentally acceptable; and

(C) to complete necessary research and development on high-temperature gas-cooled reactor technology and liquid metal reactor technology to support the selection, by September 30, 1998, of one or both of those technologies as appropriate for prototype demonstration; and

(3) for the long-term, to complete research and development and demonstration to support the design of advanced reactor technologies capable of providing electric power to a utility grid as soon as practicable but no later than the year 2010.

(c) PROGRAM PLAN.—Within 180 days after the date of enactment of this Act, the Secretary shall prepare and submit to the Congress a 5-year program plan to guide the activities under this section. The program plan shall include schedule milestones, Federal funding requirements, and non-Federal cost sharing requirements. In preparing the program plan, the Secretary shall take into consideration—

(1) the need for, and the potential for future adoption by electric utilities or other entities of, advanced nuclear reactor technologies that are available, under development, or have the potential for being developed, for the generation of energy from nuclear fission;

(2) how the Federal Government, acting through the Secretary, can be effective in ensuring the availability of such technologies when they are needed;

(3) how the Federal Government can most effectively cooperate with the private sector in the accomplishment of the goals set forth in subsection (b); and

(4) potential alternative funding sources for carrying out this section.

In preparing the program plan, the Secretary shall consult with appropriate representatives of industry, institutions of higher education, Federal agencies, including national laboratories, and professional and technical societies. The Secretary shall update the program plan annually and submit such update to Congress. Each such update shall describe any activities that are behind schedule, any funding shortfalls, and any other circumstances that might affect the ability of the Secretary to meet the goals set forth in subsection (b).

SEC. 2123. [42 U.S.C. 13493] COMMERCIALIZATION OF ADVANCED LIGHT WATER REACTOR TECHNOLOGY.

(a) CERTIFICATION OF DESIGNS.—In order to achieve the goal of certification of completed standardized designs by the Commission by 1996 as set forth in section 2122(b), the Secretary shall conduct a 5-year program of technical and financial assistance to encourage the development and submission for certification of advanced light water reactor designs which, in the judgment of the Secretary, can be certified by the Commission by no later than the end of fiscal year 1996.

(b) FIRST-OF-A-KIND ENGINEERING.—

(1) ESTABLISHMENT OF PROGRAM.—The Secretary shall conduct a program of Federal financial and technical assistance for the first-of-a-kind engineering design of standardized commercial nuclear powerplants which are included, as of the date

of enactment of this Act, in the Department of Energy's program for certification of advanced light water reactor designs.

(2) **SELECTION CRITERIA.**—In order to be eligible for assistance under this subsection, an entity shall certify to the satisfaction of the Secretary that—

(A) the entity, or its members, are bona fide entities engaged in the design, engineering, manufacture, construction, or operation of nuclear reactors;

(B) the entity, or its members, have the financial resources necessary for, and fully intend to pursue the design, engineering, manufacture, construction, and operation in the United States of nuclear power plants through completion of construction and into operation;

(C) the design proposed is scheduled for certification by the Commission under the Department of Energy's program for certification of light water reactor designs; and

(D) at least 50 percent of the funding for the project shall be obtained from non-Federal sources, and a substantial portion of that non-Federal funding shall be obtained from utilities or entities whose primary purpose is the production of electrical power for public consumption.

(3) **PROGRAM DOCUMENTS.**—The Secretary shall prepare and submit to the Congress a program document for each design selected under this subsection, specifying goals and objectives, major milestones for achieving those goals and objectives, and the work products to be provided to the Secretary or made available for inspection.

(4) **FUNDING LIMITATIONS.**—(A) Before entering into an agreement with an entity under this subsection, the Secretary shall establish a cost ceiling for the contribution of the Federal Government for the project, and shall report such cost ceiling to the Congress.

(B) No entity shall receive assistance under this subsection for a period greater than 4 years.

(C) The aggregate funding provided by the Secretary for projects under this subsection shall not exceed \$100,000,000 for the period encompassing fiscal years 1993 through 1997.

(5) **STATUS REPORT.**—The Secretary shall annually submit to the Congress a status report on each project receiving assistance under this subsection.

SEC. 2124. [42 U.S.C. 13494] PROTOTYPE DEMONSTRATION OF ADVANCED NUCLEAR REACTOR TECHNOLOGY.

(a) **SOLICITATION OF PROPOSALS.**—Within 3 years after the date of enactment of this Act, the Secretary shall solicit proposals for carrying out the preliminary engineering design of not more than 2 prototype advanced nuclear reactor technologies developed by the Department of Energy, other than advanced light water reactor technologies, necessary to support a decision on whether to recommend construction of a prototype demonstration reactor with the characteristics described in section 2123(a). Proposals submitted under this subsection shall be for modular design concepts of sufficient size to address requirements related to the certification of a standardized design.

(b) **RECOMMENDATION TO CONGRESS.**—(1) Not later than September 30, 1998, the Secretary shall submit to Congress rec-

ommendations on whether to build one or more prototype demonstration reactors under this section. Such recommendations shall—

- (A) specify a preferred technology or technologies;
- (B) include detailed information on milestones for construction and operation;
- (C) include an estimate of the funding requirements; and
- (D) specify the extent and type of non-Federal financial support anticipated.

In developing the recommendations under this paragraph, the Secretary shall provide for public notice and an opportunity for comment, and shall solicit the views of the Commission and other parties with technical expertise the Secretary considers useful in the development of such recommendations.

(2) The prototype demonstration program under this section shall be carried out to the maximum extent practicable with private sector funding. At least 50 percent of the funding for such program shall be non-Federal funding. The extent of non-Federal cost sharing proposed for any demonstration project shall be a criterion for the selection of the project.

(c) **SELECTION OF TECHNOLOGY.**—Any technology selected by the Secretary for recommendation for prototype demonstration under this section shall to the maximum extent possible exhibit the characteristics set forth in section 2123(a).

SEC. 2125. REPEALS.

The Renewable Energy and Energy Efficiency Technology Competitiveness Act of 1989 is amended—

- (1) in section 4(c)(1)(C), by inserting “and” after “Program.”;
- (2) in section 4(c)(2)(C), by striking “Program; and” and inserting in lieu thereof “Program.”;
- (3) by striking section 4(c)(3);
- (4) in section 5(1)(B), by inserting “and” after “program.”;
- (5) in section 5(2)(B), by striking “program; and” and inserting in lieu thereof “program.”; and
- (6) by striking section 5(3).

SEC. 2126. [42 U.S.C. 13495] AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to the Secretary for carrying out this subtitle \$212,804,000 for fiscal year 1993 and such sums as may be necessary for fiscal year 1994. Amounts authorized or otherwise made available for program direction, space reactor power systems, advanced radioisotope power systems, and the space exploration initiative under nuclear energy research and development shall be in addition to the amounts authorized in the preceding sentence.

TITLE XXII—ENERGY AND ECONOMIC GROWTH

SEC. 2201. [42 U.S.C. 13501] NATIONAL ADVANCED MATERIALS INITIATIVE.

(a) **PROGRAM DIRECTION.**—The Secretary shall establish a 5-year National Advanced Materials Program, in accordance with

sections 3001 and 3002 of this Act. Such program shall foster the commercialization of techniques for processing, synthesizing, fabricating, and manufacturing advanced materials and associated components. At a minimum, the Program shall expedite the private sector deployment of advanced materials for use in high performance energy efficient and renewable energy technologies in the industrial, transportation, and buildings sectors that can foster economic growth and competitiveness. The Program shall include field demonstrations of sufficient scale and number to prove technical and economic feasibility.

(b) PROGRAM PLAN.—Within 180 days after the date of enactment of this Act, the Secretary, in consultation with appropriate representatives of industry, institutions of higher education, Department of Energy national laboratories, and professional and technical societies, shall prepare and submit to the Congress a 5-year program plan to guide activities under this section. The Secretary shall biennially update and resubmit the program plan to Congress.

(c) PROPOSALS.—

(1) SOLICITATION.—Within 1 year after the date of enactment of this Act, the Secretary shall solicit proposals for conducting activities consistent with the 5-year program plan. Such proposals may be submitted by one or more parties.

(2) CONTENTS OF PROPOSALS.—Proposals submitted under this subsection shall include—

(A) an explanation of how the proposal will expedite the commercialization of advanced materials in energy efficiency or renewable energy in the near-term to mid-term;

(B) evidence of consideration of whether the unique capabilities of Department of Energy national laboratories warrants collaboration with such laboratories, and the extent of such collaboration proposed;

(C) a description of the extent to which the proposal includes collaboration with relevant industry or other groups or organizations; and

(D) evidence of the ability of the proposers to undertake and complete the proposed project.

(d) GENERAL SERVICES ADMINISTRATION DEMONSTRATION PROGRAM.—The Secretary, in consultation with the Administrator of General Services, shall establish a program to expedite the use, in goods and services acquired by the General Services Administration, of advanced materials technologies. Such program shall include a demonstration of the use of advanced materials technologies as may be necessary to establish technical and economic feasibility. The Secretary shall transfer funds to the General Services Administration for carrying out this subsection.

(e) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary for carrying out this section such sums as may be necessary, to be derived for energy efficient applications from section 2101(e) and for renewable applications from section 2111(c), including Department of Energy national laboratory participation in proposals submitted under subsection (c), and including transferring funds to the General Services Administration.

SEC. 2202. [42 U.S.C. 13502] NATIONAL ADVANCED MANUFACTURING TECHNOLOGIES INITIATIVE.

(a) **PROGRAM DIRECTION.**—The Secretary shall establish a 5-year National Advanced Manufacturing Technologies Program, in accordance with sections 3001 and 3002 of this Act. Such program shall foster the commercialization of advanced manufacturing technologies to improve energy efficiency and productivity in manufacturing. At a minimum, the Program shall expedite the private sector deployment of advanced manufacturing technologies to improve productivity, quality, and control in manufacturing processes that can foster economic growth, energy efficiency, and competitiveness. The program shall include field demonstrations of sufficient scale and number to prove technical and economic feasibility.

(b) **PROGRAM PLAN.**—Within 180 days after the date of enactment of this Act, the Secretary, in consultation with appropriate representatives of industry, institutions of higher education, Department of Energy national laboratories, and professional and technical societies, shall prepare and submit to the Congress a 5-year program plan to guide activities under this section. The Secretary shall biennially update and resubmit the program plan to Congress.

(c) **PROPOSALS.**—

(1) **SOLICITATION.**—Within 1 year after the date of enactment of this Act, the Secretary shall solicit proposals for conducting activities consistent with the 5-year program plan. Such proposals may be submitted by one or more parties.

(2) **CONTENTS OF PROPOSALS.**—Proposals submitted under this subsection shall include—

(A) an explanation of how the proposal will expedite the commercialization of advanced manufacturing technologies to improve energy efficiency in the building, industry, and transportation sectors;

(B) evidence of consideration of whether the unique capabilities of Department of Energy national laboratories warrants collaboration with such laboratories, and the extent of such collaboration proposed;

(C) a description of the extent to which the proposal includes collaboration with relevant industry or other groups or organizations; and

(D) evidence of the ability of the proposers to undertake and complete the proposed project.

(d) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to the Secretary for carrying out this section such sums as may be necessary, to be derived from sums authorized under section 2101(e), including Department of Energy national laboratory participation in proposals submitted under subsection (c).

SEC. 2203. [42 U.S.C. 13503] SUPPORTING RESEARCH AND TECHNICAL ANALYSIS.

(a) **BASIC ENERGY SCIENCES.**—

(1) **PROGRAM DIRECTION.**—The Secretary shall continue to support a vigorous program of basic energy sciences to provide basic research support for the development of energy technologies. Such program shall focus on the efficient production and use of energy, and the expansion of our knowledge of ma-

terials, chemistry, geology, and other related areas of advancing technology development.

(2) **USER FACILITIES.**—(A) As part of the program referred to in paragraph (1), the Secretary shall carry out planning, construction, and operation of user facilities to provide special scientific and research capabilities, including technical expertise and support as appropriate, to serve the research needs of our Nation's universities, industry, private laboratories, Federal laboratories, and others. Research institutions or individuals from other nations shall be accommodated at such user facilities in cases where reciprocal accommodations are provided to United States research institutions and individuals or where the Secretary considers such accommodation to be in the national interest.

(B) The construction of the Advanced Photon Source at the Argonne National Laboratory is hereby authorized.

(C) The Secretary shall not change the user fee practice in effect as of October 1, 1991, with respect to user facilities unless the Secretary notifies Congress 90 days before the effective date of any change.

(D) The Secretary shall expedite the design for construction of the Advanced Neutron Source at the Oak Ridge National Laboratory, in order to provide critical research capabilities in support of our national research initiatives for advanced materials and biotechnology, as well as a broad range of research. Such action shall be consistent with the Basic Energy Sciences Advisory Committee's Technical Evaluation of accelerator and reactor neutron source technologies. Within 90 days after the date of enactment of this Act, the Secretary shall submit to the Congress a plan for such design, including a schedule for construction.

(3) **COST SHARING.**—The Secretary shall not require cost sharing for research and development pursuant to this subsection, except—

(A) as otherwise provided for in cooperative research and development agreements or other agreements entered into under existing law;

(B) for fees for user facilities, as determined by the Secretary; or

(C) in the case of specific projects, where the Secretary determines that the benefits of such research and development accrue to a specific industry or group of industries, in which case cost sharing under section 3002 of this Act shall apply.

(b) **UNIVERSITY AND SCIENCE EDUCATION.**—(1) The Secretary shall support programs for improvements and upgrading of university research reactors and associated instrumentation and equipment. Within 1 year after the date of enactment of this Act, the Secretary shall submit to the Congress a report on the condition and status of university research reactors, which includes a 5-year plan for upgrading and improving such facilities, instrumentation capabilities, and related equipment.

(2) The Secretary shall develop a method to evaluate the effectiveness of science and mathematics education programs provided

by the Department of Energy and its laboratories, including specific evaluation criteria.

(3)(A)(i) The Director of the Office of Science shall operate an Experimental Program to Stimulate Competitive Research (in this paragraph referred to as "EPSCoR") as part of the Department of Energy's University and Science Education Programs.

(ii) The objectives of EPSCoR shall be—

(I) to enhance the competitiveness of the peer-review process within academic institutions in eligible States; and

(II) to increase the probability of long-term growth of competitive funding to investigators at institutions from eligible States.

(iii) In order to carry out the objectives stated in clause (ii), EPSCoR shall provide for activities which may include (but not be limited to) competitive research awards and graduate traineeships.

(iv) EPSCoR shall assist those States that—

(I) historically have received relatively little Federal research and development funding; and

(II) have demonstrated a commitment to develop their research bases and improve science and engineering research and education programs at their universities and colleges.

(B) For purposes of this paragraph, the term "eligible States" means States that received a Department-EPSCoR planning or traineeship grant in fiscal year 1991 or fiscal year 1992.

(C) No more than \$5,000,000 of the funds appropriated to EPSCoR in any fiscal year, through fiscal year 1997, are authorized to be appropriated for graduate traineeships.

(c) TECHNOLOGY TRANSFER.—The Secretary shall support technology transfer activities conducted by the National Laboratories. Within 1 year after the date of enactment of this Act, the Secretary shall submit to the Congress a report on the adequacy of funding for such activities, along with a proposal recommending ways to reduce the length of time required to consummate cooperative research and development agreements.

(d) FACILITIES SUPPORT FOR MULTIPROGRAM ENERGY LABORATORIES.—

(1) FACILITY POLICY.—The Secretary shall develop and implement a least cost strategy for correcting facility problems, closing unneeded facilities, making facility modifications, and building new facilities at multiprogram energy laboratories.

(2) FACILITY PLAN.—Within 1 year after the date of enactment of this Act, the Secretary shall prepare and submit to the Congress a comprehensive plan for conducting future facility maintenance, making repairs, modifications, and new additions, and constructing new facilities at multiprogram energy laboratories. Such plan shall provide for facilities work in accordance with the following priorities, listed in descending order of priority:

(A) Providing for the safety and health of employees, visitors, and the general public with regard to correcting existing structural, mechanical, electrical, and environmental deficiencies.

(B) Providing for the repair and rehabilitation of existing facilities to keep them in use and prevent deterioration.

(C) Providing engineering design and construction services for those facilities which require modification or additions in order to meet the needs of new or expanded programs.

Such plan shall include plans for new facilities and facility modifications which will be required to meet the Department of Energy's changing missions of the twenty-first century, including schedules and estimates for implementation, and including a section outlining long-term funding requirements consistent with anticipated budgets and annual authorization of appropriations. Such plan shall address the coordination of modernization and consolidation of facilities in order to meet changing mission requirements, and shall provide for annual reports to Congress on accomplishments, conformance to schedules, commitments, and expenditures.

(e) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary for Supporting Research and Technical Analysis, including Basic Energy Sciences, Energy Research Analysis, University and Science Education, Technology Transfer, Advisory and Oversight Program Direction, and Facilities Support for Multiprogram Energy Laboratories, \$966,804,000 for fiscal year 1993 and such sums as may be necessary for fiscal year 1994.

SEC. 2204. [42 U.S.C. 13504] MATH AND SCIENCE EDUCATION PROGRAM.

(a) PROGRAM.—The Secretary shall enter into contracts with existing qualified entities to conduct science and mathematics education programs that supplement the Special Programs for Students from Disadvantaged Backgrounds carried out by the Secretary of Education under sections 417A through 417F of Public Law 89-329, as amended (20 U.S.C. 1070d through 1070d-1d).

(b) PURPOSE.—(1) The purpose of the programs shall be to provide support to Federal, State, and private programs designed to promote the participation of low-income and first generation college students as defined in section 417A of Public Law 89-329, as amended (20 U.S.C. 1070d-d), in post-secondary science and mathematics education.

(2) Support activities may include—

- (A) the development of educational materials;
- (B) the training of teachers and counselors;
- (C) the establishment of student internships;
- (D) the development of seminars on mathematics and science;
- (E) tutoring in mathematics and science;
- (F) academic counseling;
- (G) the development of opportunities for research; and
- (H) such other activities that may promote the participation of low-income and first generation college students in post-secondary science and mathematics education.

(c) SUPPORT.—(1) In carrying out the purpose of this section, the entities may provide support under subsection (b)(2) to—

- (A) low-income and first generation college students; and
- (B) institutions of higher education, public and private agencies and organizations, and secondary and middle schools that principally benefit low-income students.

(2) The qualified entities shall, to the extent practicable, coordinate support activities under this section with the Secretary of Education and the Secretary.

(d) COOPERATION WITH QUALIFIED ENTITIES.—The Secretary shall cooperate with qualified entities and, to the extent practicable, make available to the entities such personnel, facilities, and other resources of the Department of Energy as may be necessary to carry out the duties of the entities.

(e) REPORT.—Not later than October 1 of each year, the entities shall report to the Secretary, the Secretary of Education, and the Congress on—

(1) progress made to promote the participation of low-income and first generation college students in post-secondary science and mathematics education by—

(A) the qualified entities;

(B) other mathematics and science education programs of the Department of Energy; and

(C) the Special Programs for Students from Disadvantaged Backgrounds of the Department of Education; and

(2) recommendations for such additional actions as may be needed to promote the participation of low-income students in post-secondary science and mathematics education.

(f) EFFECT ON EXISTING PROGRAMS.—The programs in this section shall supplement and be developed in cooperation with the current mathematics and science education programs of the Department of Energy and the Department of Education but shall not supplant them.

(g) DEFINITION.—For purposes of this section, the term “qualified entity” means a nonprofit corporation, association, or institution that has demonstrated special knowledge of, and experience with, the education of low-income and first generation college students and whose primary mission is the operation of national programs that focus on low-income students and provide training and other services to educators.

(h) AUTHORIZATION.—There are authorized to be appropriated such sums as may be necessary, to be derived from section 2203(e) and the Environmental Restoration and Waste Management program, to carry out the purposes of this section.

SEC. 2205. [42 U.S.C. 13505] INTEGRATION OF RESEARCH AND DEVELOPMENT.

Within 180 days after the date of enactment of this Act, the Secretary, in consultation with appropriate representatives of industry, institutions of higher education, Department of Energy national laboratories, and professional and technical societies, shall prepare and submit to Congress a 5-year program plan for improving the integration of basic energy research programs with other energy programs within the Department of Energy. Such program plan shall include—

(1) an evaluation of current procedures and mechanisms used to achieve such integration;

(2) an assessment of the role that the Department of Energy national laboratories play in such integration;

(3) an identification and evaluation of models that could enhance such integration;

(4) an identification and evaluation of new programs, mechanisms, and related policy options that could improve the integrating process, including—

(A) set aside funding for matching or leveraging basic and applied programs;

(B) more formal linkages; and

(C) program coordination;

(5) recommendations for expanded research and development and new technology areas; and

(6) budget estimates for activities under this section.

SEC. 2206. [42 U.S.C. 13506] DEFINITIONS.

For purposes of this title—

(1) the term “advanced manufacturing technology” means processes, equipment, techniques, practices, and capabilities that are applied for the purpose of—

(A) improving the productivity, quality, or energy efficiency of the design, development, testing, or manufacture of a product; or

(B) expanding the technical capability to design, develop, test, or manufacture a product that is fundamentally different in character from existing products and that will result in improved energy efficiency;

(2) the term “advanced materials” means materials that are processed, synthesized, fabricated, and manufactured to develop high performance properties that exceed the corresponding properties of conventional materials for structural, electronic, magnetic, or photonic applications, or for joining, welding, bonding, or packaging components into complex assemblies, including—

(A) advanced monolithic materials such as metals, ceramics, and polymers;

(B) advanced composite materials such as metal matrix (including intermetallics), polymer matrix, ceramic matrix, continuous fiber ceramic composite, and carbon matrix composites; and

(C) advanced electronic, magnetic, and photonic materials, including superconducting, semiconductor, electrooptic, magneto optic, thin-film, and special purpose coating materials used in technologies for energy efficiency, renewable energy, or electric power applications; and

(3) the term “United States” means the 50 States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the United States Virgin Islands, Guam, the Northern Mariana Islands, and any other territory or possession of the United States.

TITLE XXIII—POLICY AND ADMINISTRATIVE PROVISIONS

SEC. 2301. [42 U.S.C. 13521] POLICY ON MAJOR CONSTRUCTION PROJECTS.

(a) **REPORT AND MANAGEMENT PLAN.**—The Secretary shall submit to the Congress a report and management plan for any major

construction project involving \$100,000,000 or more, prior to the expenditure of those funds.

(b) CONGRESSIONAL REVIEW.—Expenditure of funds for a project described in subsection (a) may be made after a period of 30 calendar days (not including any day on which either House of Congress is not in session because of adjournment of more than 3 calendar days prior to a day certain) has passed after receipt of the report and management plan by Congress.

SEC. 2302. [42 U.S.C. 13522] ENERGY RESEARCH, DEVELOPMENT, DEMONSTRATION, AND COMMERCIAL APPLICATION ADVISORY BOARD.

(a) ESTABLISHMENT.—The Secretary shall establish an Energy Research, Development, Demonstration, and Commercial Application Advisory Board (hereafter in this section referred to as the “Advisory Board”).

(b) RESPONSIBILITIES.—The Advisory Board shall provide impartial technical advice to the Secretary to assist in the development of energy research, development, demonstration, and commercial application plans and reports under sections 6 and 15 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5905 and 5914), under section 801 of the Department of Energy Organization Act (42 U.S.C. 7321), and as otherwise provided in titles XX through XXIII of this Act. The Advisory Board shall also periodically review such plans and reports and their implementation in relation to the goals stated in section 2001 of this Act, and report the results of such review to the Secretary and the Congress. Such report shall be included as part of the report required under section 15 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5914).

(c) USE OF EXISTING ADVISORY BOARD.—The Secretary may use an existing advisory board to carry out the responsibilities described in subsection (b).

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SEC. 2304. [42 U.S.C. 13523] MANAGEMENT PLAN.

(a) PLAN PREPARATION.—The Secretary, in consultation with the Advisory Board established under section 2302, shall prepare a management plan for the conduct of research, development, demonstration, and commercial application of energy technologies that is consistent with the goals stated in section 2001.

(b) CONTENTS OF PLAN.—The management plan under subsection (a) shall provide for—

(1) investigation of promising energy and energy efficiency resource technologies that have been identified as potentially significant future contributors to national energy security;

(2) development of energy and energy efficiency resource technologies that have the potential to reduce energy supply vulnerability, and to minimize adverse impacts on the environment, the global climate, and the economy; and

(3) creation of opportunities for export of energy and energy efficiency resource technologies from the United States that can enhance the Nation’s competitiveness.

(c) ENERGY TECHNOLOGY INVENTORY AND STATUS REPORT.—As part of the management plan, the Secretary, with the advice of the Advisory Board established under section 2302 of this Act, shall de-

velop an inventory and status report of technologies to enhance energy supply and to improve the efficiency of energy end uses. The inventory and status report shall include fossil, renewable, nuclear, and energy conservation technologies which have not yet achieved the status of fully reliable and cost-competitive commercial availability, but which the Secretary projects may become available with additional research, development, and demonstration. The inventory and status report shall provide, for each technology—

- (1) an assessment of its—
 - (A) degree of technological maturity; and
 - (B) principal research, development, and demonstration issues, including—
 - (i) the barriers posed by capital, operating, and maintenance costs;
 - (ii) technical performance; and
 - (iii) potential environmental impacts;

- (2) the projected time frame for commercial availability, specifying at a minimum whether the technology will be commercially available in the near-term, mid-term, or long-term, whether there are too many uncertainties to project availability, or whether it is unlikely that the technology will ever be commercial; and

- (3) a projection of the future cost-competitiveness of the technology in comparison with alternative technologies to provide the same energy service.

(d) PUBLIC COMMENT.—The Secretary shall publish the proposed management plan for a written public comment period of at least 90 days. The Secretary shall consider such comments and include a summary thereof in the management plan.

(e) PLAN SUBMISSION.—Within one year after the date of enactment of this Act, the Secretary shall submit the first management plan under this section to Congress. Thereafter, the Secretary shall submit a revised management plan biennially, at the time of submittal of the President's annual budget submission to the Congress.

SEC. 2305. [42 U.S.C. 13524] COSTS RELATED TO DECOMMISSIONING AND THE STORAGE AND DISPOSAL OF NUCLEAR WASTE.

(a) AWARD OF CONTRACTS.—

(1) PRIME CONTRACTORS.—In awarding contracts to perform nuclear hot cell services, the Secretary, in evaluating bids for such contracts, shall exclude from consideration costs related to the decommissioning of nuclear facilities or the storage and disposal of nuclear waste, if—

(A) one or more of the parties bidding to perform such services is a United States company that is subject to such costs; and

(B) one or more of the parties bidding to perform such services is a foreign company that is not subject to comparable costs.

(2) SUBCONTRACTORS.—Any person awarded a contract subject to the restrictions described in paragraph (1) who subcontracts with a person to perform the services described in such paragraph shall be subject to the same restrictions in evaluating bids among potential subcontractors, as the

Secretary was subject to in evaluating bids among prime contractors.

(b) ISSUANCE OF REGULATIONS.—The Secretary shall issue regulations not later than 90 days after the date of the enactment of this Act to carry out the requirements of subsection (a).

(c) DEFINITIONS.—As used in this section—

(1) the term “costs related to decommissioning of nuclear facilities” means any cost associated with the compliance with regulatory requirements governing the decommissioning of nuclear facilities licensed by the Nuclear Regulatory Commission;

(2) the term “costs related to storage and disposal of nuclear waste” means any costs, whether required by regulation or incurred as a matter of prudent business practice, associated with the storage or disposal of nuclear waste;

(3) the term “nuclear hot cell services” means services related to the examination of, or performance of various operations on, nuclear fuel rods, control assemblies, or other components that are emitting large quantities of ionizing radiation; and

(4) the term “nuclear waste” means any radioactive waste material subject to regulation by the Nuclear Regulatory Commission or the Department of Energy.

SEC. 2306. [42 U.S.C. 13525] LIMITS ON PARTICIPATION BY COMPANIES.

A company shall be eligible to receive financial assistance under titles XX through XXIII of this Act only if—

(1) the Secretary finds that the company’s participation in any program under such titles would be in the economic interest of the United States, as evidenced by investments in the United States in research, development, and manufacturing (including, for example, the manufacture of major components or subassemblies in the United States); significant contributions to employment in the United States; an agreement with respect to any technology arising from assistance provided under this section to promote the manufacture within the United States of products resulting from that technology (taking into account the goals of promoting the competitiveness of United States industry), and to procure parts and materials from competitive suppliers; and

(2) either—

(A) the company is a United States-owned company; or

(B) the Secretary finds that the company is incorporated in the United States and has a parent company which is incorporated in a country which affords to United States-owned companies opportunities, comparable to those afforded to any other company, to participate in any joint venture similar to those authorized under this Act; affords to United States-owned companies local investment opportunities comparable to those afforded to any other company; and affords adequate and effective protection for the intellectual property rights of United States-owned companies.

SEC. 2307. [42 U.S.C. 13526] UNCOSTED OBLIGATIONS.

(a) **REPORT.**—Along with the submission of each of the President’s annual budget requests to Congress, the Secretary shall submit to Congress a report which—

(1) identifies the amount of Department of Energy funds that were, as of the end of the previous fiscal year—

(A) committed uncosted obligations; and

(B) uncommitted uncosted obligations;

(2) specifically describes the purposes for which all such funds are intended; and

(3) explains the effect that information contained in the report has had on the annual budget request for the Department of Energy being simultaneously submitted.

(b) **DEFINITIONS.**—Within 90 days after the date of enactment of this Act, the Secretary shall submit a report to the Congress containing definitions of the terms “uncosted obligation”, “committed uncosted obligation”, and “uncommitted uncosted obligation” for purposes of reports to be submitted under subsection (a).

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**FEDERAL NONNUCLEAR ENERGY RESEARCH AND
DEVELOPMENT ACT OF 1974**

PUBLIC LAW 93-577, AS AMENDED

AN ACT To establish a national program for research and development in
nonnuclear energy sources.

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

SHORT TITLE

SECTION 1. [42 U.S.C. 5901 note] This Act may be cited as the
“Federal Nonnuclear Energy Research and Development Act of
1974”.

STATEMENT OF FINDINGS

SEC. 2. [42 U.S.C. 5901] The Congress hereby finds that—

(a) The Nation is suffering from a shortage of environmentally
acceptable forms of energy.

(b) Compounding this energy shortage is our past and present
failure to formulate a comprehensive and aggressive research and
development program designed to make available to American con-
sumers our large domestic energy reserves including fossil fuels,
nuclear fuels, geothermal resources, solar energy, and other forms
of energy. This failure is partially because the unconventional en-
ergy technologies have not been judged to be economically competi-
tive with traditional energy technologies.

(c) The urgency of the Nation’s energy challenge will require
commitments similar to those undertaken in the Manhattan and
Apollo projects; it will require that the Nation undertake a re-
search, development, and demonstration program in nonnuclear en-
ergy technologies with a total Federal investment which may reach
or exceed \$20,000,000,000 over the next decade.

(d) In undertaking such program, full advantage must be taken
of the existing technical and managerial expertise in the various
energy fields within Federal agencies and particularly in the pri-
vate sector.

(e) The Nation’s future energy needs can be met if a national
commitment is made now to dedicate the necessary financial re-
sources, to enlist our scientific and technological capabilities, and
to accord the proper priority to developing new nonnuclear energy
options to serve national needs, conserve vital resources, and pro-
tect the environment.

STATEMENT OF POLICY

SEC. 3. [42 U.S.C. 5902] (a) It is the policy of the Congress to develop on an urgent basis the technological capabilities to support the broadest range of energy policy options through conservation and use of domestic resources by socially and environmentally acceptable means.

(b)(1) The Congress declares the purpose of this Act to be to establish and vigorously conduct a comprehensive, national program of basic and applied research and development, including but not limited to demonstrations of practical applications, of all potentially beneficial energy sources and utilization technologies, within the Energy Research and Development Administration.

(2) In carrying out this program, the Administrator of the Energy Research and Development Administration (hereinafter in this Act referred to as the "Administrator") shall be governed by the terms of this Act and other applicable provisions of law with respect to all nonnuclear aspects of the research, development, and demonstration program; and the policies and provisions of the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.), and other provisions of law shall continue to apply to the nuclear research, development, and demonstration program.

(3) In implementing and conducting the research, development, and demonstration programs pursuant to this Act, the Administrator shall incorporate programs in specific nonnuclear technologies previously enacted into law, including those established by the Solar Heating and Cooling Act of 1974 (Public Law 93-409), the Geothermal Energy Research, Development, and Demonstration Act of 1974 (Public Law 93-410), and the Solar Energy Research, Development, and Demonstration Act of 1974 (Public Law 93-473).

DUTIES AND AUTHORITIES OF THE ADMINISTRATOR

SEC. 4. [42 U.S.C. 5903] The Administrator shall—

(a) review the current status of nonnuclear energy resources and current nonnuclear energy research and development activities, including research and development being conducted by Federal and non-Federal entities;

(b) formulate and carry out a comprehensive Federal nonnuclear energy research, development, and demonstration program which will expeditiously advance the policies established by this Act and other relevant legislation establishing programs in specific energy technologies;

(c) utilize the funds authorized pursuant to this Act to advance energy research and development by initiating and maintaining, through fund transfers, grants or contracts, energy research, development and demonstration programs or activities utilizing the facilities, capabilities, expertise, and experience of Federal agencies, national laboratories, universities, nonprofit organizations, industrial entities, and other non-Federal entities which are appropriate to each type of research, development, and demonstration activity;

(d) establish procedures for periodic consultation with representatives of science, industry, environmental organizations,

consumers, and other groups who have special expertise in the areas of energy research, development, and technology; and

(e) initiate programs to design, construct, and operate energy facilities of sufficient size to demonstrate the technical and economic feasibility of utilizing various forms of non-nuclear energy.

GOVERNING PRINCIPLES

SEC. 5. [42 U.S.C. 5904] (a) The Congress authorizes and directs that the comprehensive program in research, development, and demonstration required by this Act shall be designed and executed according to the following principles:

(1) Energy conservation shall be a primary consideration in the design and implementation of the Federal nonnuclear energy program. For the purposes of this Act, energy conservation means both improvement in efficiency of energy production and use, and reduction in energy waste.

(2) The environmental and social consequences of a proposed program shall be analyzed and considered in evaluating its potential.

(3) Any program for the development of a technology which may require significant consumptive use of water after the technology has reached the stage of commercial application shall include thorough consideration of the impacts of such technology and use on water resources pursuant to the provisions of section 13.

(4) Heavy emphasis shall be given to those technologies which utilize renewable or essentially inexhaustible energy sources.

(5) The potential for production of net energy by the proposed technology at the stage of commercial application shall be analyzed and considered in evaluating proposals.

(b) The Congress further directs that the execution of the comprehensive research, development, and demonstration program shall conform to the following principles:

(1) Research and development of nonnuclear energy sources shall be pursued in such a way as to facilitate the commercial availability of adequate supplies of energy to all regions of the United States.

(2) In determining the appropriateness of Federal involvement in any particular research and development undertaking, the Administrator shall give consideration to the extent to which the proposed undertaking satisfies criteria including, but not limited to, the following:

(A) The urgency of public need for the potential results of the research, development, or demonstration effort is high, and it is unlikely that similar results would be achieved in a timely manner in the absence of Federal assistance.

(B) The potential opportunities for non-Federal interests to recapture the investment in the undertaking through the normal commercial utilization of proprietary knowledge appear inadequate to encourage timely results.

(C) The extent of the problems treated and the objectives sought by the undertaking are national or wide-spread in their significance.

(D) There are limited opportunities to induce non-Federal support of the undertaking through regulatory actions, end use controls, tax and price incentives, public education, or other alternatives to direct Federal financial assistance.

(E) The degree of risk of loss of investment inherent in the research is high, and the availability or risk capital to the non-Federal entities which might otherwise engage in the field of the research is inadequate for the timely development of the technology.

(F) The magnitude of the investment appears to exceed the financial capabilities of potential non-Federal participants in the research to support effective efforts.

COMPREHENSIVE PLANNING AND PROGRAMMING

SEC. 6. [42 U.S.C. 5905] (a) Pursuant to the authority and directions of this Act and the Energy Reorganization Act of 1974 (Public Law 93-438), the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), and titles XX through XXIII of the Energy Policy Act of 1992, the Secretary, in consultation with the Advisory Board established under section 2302 of the Energy Policy Act of 1992, shall transmit to the Congress, on or before June 30, 1975, a comprehensive plan for energy research, development, and demonstration. This plan shall be appropriately revised annually as provided in section 15(a). Such plan shall be designated to achieve—

(1) solutions to immediate and short-term (the period up to 5 years after submission of the plan or its annual revision) energy supply system and associated environmental problems;

(2) solutions to middle-term (the period from 5 years to 10 years after submission of the plan or its annual revision) energy supply system and associated environmental problems; and

(3) solutions to long-term (the period beyond 10 years after submission of the plan or its annual revision) energy supply system and associated environmental problems.

(b)(1) Based on the comprehensive energy research, development, and demonstration plan developed under subsection (a), the Secretary, in consultation with the Advisory Board established under section 2302 of the Energy Policy Act of 1992, shall develop and transmit to the Congress, on or before June 30, 1975, a comprehensive nonnuclear energy research, development, and demonstration program to implement the nonnuclear research, development and demonstration aspects of the comprehensive plan. Such program shall be updated and transmitted to the Congress annually as part of the report required under section 15.

(2) This program shall be designed to achieve solutions to the energy supply and associated environmental problems in the immediate and short-term, middle-term, and long-term time intervals described in subsection (a)(1) through (3). In formulating the non-nuclear aspects of this program, the Secretary, in consultation with the Advisory Board established under section 2302 of the Energy

Policy Act of 1992, shall evaluate the economic, environmental, and technological merits of each aspect of the program.

(3) The Administrator shall assign program elements and activities in specific nonnuclear energy technologies to the short-term, middle-term, and long-term time intervals, and shall present full and complete justification for these assignments and the degree of emphasis for each. These program elements and activities shall include, but not be limited to, research, development, and demonstrations designed—

(A) to advance energy conservation technologies, including but not limited to—

(i) productive use of waste, including garbage, sewage, agricultural wastes, and industrial waste heat;

(ii) reuse and recycling of materials and consumer products;

(iii) improvements in automobile design for increased efficiency and lowered emissions, including investigation of the full range of alternatives to the internal combustion engine and systems of efficient public transportation; and

(iv) advanced urban and architectural design to promote efficient energy use in the residential and commercial sectors, improvements in home design and insulation technologies, small thermal storage units and increased efficiency in electrical appliances and lighting fixtures;

(B) to accelerate the commercial demonstration of technologies for producing low-sulfur fuels suitable for boiler use;

(C) to demonstrate improved methods for the generation, storage, and transmission of electrical energy through (i) advances in gas turbine technologies, combined power cycles, the use of low British thermal unit gas and, if practicable, magnetohydrodynamics; (ii) storage systems to allow more efficient load following, including the use of inertial energy storage systems; and (iii) improvement in cryogenic transmission methods;

(D) to accelerate the commercial demonstration of technologies for producing substitutes for natural gas, including coal gasification: *Provided*, That the Administrator shall invite and consider proposals from potential participants based upon Federal assistance and participation in the form of a joint Federal-industry corporation, and recommendations pursuant to this clause shall be accompanied by a report on the viability of using this form of Federal assistance or participation;

(E) to accelerate the commercial demonstration of technologies for producing syncrude and liquid petroleum products from coal: *Provided*, That the Administrator shall invite and consider proposals from potential participants based upon Federal assistance and participation through guaranteed prices or purchase of the products, and recommendations pursuant to this clause shall be accompanied by a report on the viability of using this form of Federal assistance or participation;

(F) in accordance with the program authorized by the Geothermal Energy Research, Development, and Demonstration Act of 1974 (Public Law 93-410), to accelerate the commercial demonstration of geothermal energy technologies;

(G) to demonstrate the production of syncrude from oil shale by all promising technologies including in situ technologies;

(H) to demonstrate new and improved methods for the extraction of petroleum resources, including secondary and tertiary recovery of crude oil;

(I) to demonstrate the economics and commercial viability of solar energy for residential and commercial energy supply applications in accordance with the program authorized by the Solar Heating and Cooling Act of 1974 (Public Law 93-409);

(J) to accelerate the commercial demonstration of environmental control systems for energy technologies developed pursuant to this Act;

(K) to investigate the technical and economic feasibility of tidal power for supplying electrical energy;

(L) to commercially demonstrate advanced solar energy technologies in accordance with the Solar Research, Development, and Demonstration Act of 1974 (Public Law 93-473);

(M) to determine the economics and commercial viability of the production of synthetic fuels such as hydrogen and methanol;

(N) to commercially demonstrate the use of fuel cells for central station electric power generation;

(O) to determine the economics and commercial viability of in situ coal gasification;

(P) to improve techniques for the management of existing energy systems by means of quality control; application of systems analysis, communications, and computer techniques; and public information with the objective of improving the reliability and efficiency of energy supplies and encourage the conservation of energy resources;

(Q) to improve methods for the prevention and cleanup of marine oil spills;

(R) to implement the Renewable Energy and Energy Efficiency Technology Competitiveness Act of 1989 (42 U.S.C. 12001 et seq.); and

(S) to implement titles XX through XXIII of the Energy Policy Act of 1992.

(c) Based upon the comprehensive plan developed under subsection (a), the Secretary, in consultation with the Advisory Board established under section 2302 of the Energy Policy Act of 1992, shall develop and transmit to the Congress, on or before September 1, 1978, a comprehensive environment and safety program to insure the full consideration and evaluation of all environmental, health, and safety impacts of each element, program, or initiative contained in the nuclear and nonnuclear energy research, development, and demonstration plans. Such program shall be updated and transmitted to the Congress annually as part of the report required under section 15.

FORMS OF FEDERAL ASSISTANCE

SEC. 7. [42 U.S.C. 5906] (a) In carrying out the objectives of this Act, the Administrator may utilize various forms of Federal assistance and participation which may include but are not limited to—

(1) joint Federal-industry experimental, demonstration, or commercial corporations consistent with the provisions of subsection (b) of this section;

(2) contractual arrangements with non-Federal participants including corporations, consortia, universities, governmental entities and nonprofit institutions;

(3) contracts for the construction and operation of federally owned facilities;

(4) Federal purchases or guaranteed price of the products of demonstration plants or activities consistent with the provisions of subsection (c) of the section;

(5) Federal loans to non-Federal entities conducting demonstrations of new technologies;

(6) incentives, including financial awards, to individual inventors, such incentives to be designed to encourage the participation of a large number of such inventors; and

(7) Federal loan guarantees and commitments thereof as provided in section 19.

(b) Joint Federal-industry corporations proposed for congressional authorization pursuant to this Act shall be subject to the provisions of section 9 of this Act and shall conform to the following guidelines except as otherwise authorized by Congress:

(1) Each such corporation may design, construct, operate, and maintain one or more experimental, demonstration, or commercial-size facilities, or other operations which will ascertain the technical, environmental, and economic feasibility of a particular energy technology. In carrying out this function, the corporation shall be empowered, either directly or by contract, to utilize commercially available technologies, perform tests, or design, construct, and operate pilot plants, as may be necessary for the design of the full-scale facility.

(2) Each corporation shall have—

(A) a Board of nine directors consisting of individuals who are citizens of the United States, of whom one shall be elected annually by the Board to serve as Chairman. The Board shall be empowered to adopt and amend by-laws. Five members of the Board shall be appointed by the President of the United States, by and with the advice and consent of the Senate, and four members of the Board shall be appointed by the President on the basis of recommendations received by him from any non-Federal entity or entities entering into contractual arrangements to participate in the corporation;

(B) a President and such other officers and employees as may be named and appointed by the Board (with the rates of compensation of all officers and employees being fixed by the Board); and

(C) the usual powers conferred upon corporations by the laws of the District of Columbia.

(3) An appropriate time interval, not to exceed 12 years, shall be established for the term of Federal participation in the corporation, at the expiration of which the Board of Directors shall take such action as may be necessary to dissolve the corporation or otherwise terminate Federal participation and financial interests. In carrying out such dissolution, the Board

of Directors shall dispose of all physical facilities of the corporation in such manner and subject to such terms and conditions as the Board determines are in the public interest and consistent with existing law; and a share of the appraised value of the corporate assets proportional to the Federal participation in the corporation, including the proceeds from the disposition of such facilities, on the date of its dissolution, after satisfaction of all its legal obligations, shall be made available to the United States and deposited in the Treasury of the United States as miscellaneous receipts. All patent rights of the corporation shall, on such date of dissolution, be vested in the Administrator: *Provided*, That Federal participation may be terminated prior to the time established in the authorizing Act upon recommendation of the Board of Directors.

(4) Any commercially valuable product produced by demonstration facilities shall be disposed of in such manner and under such terms and conditions as the corporation shall prescribe. All revenues received by the corporation from the sale of such products shall be available to the corporation for use by it in defraying expenses incurred in connection with carrying out its functions to which this Act applies.

(5) The estimated Federal share of the construction, operation, and maintenance cost over the life of each corporation shall be determined in order to facilitate a single congressional authorization of the full amount at the time of establishment of the corporation.

(6) The Federal share of the cost of each such corporation shall reflect (A) the technical and economic risk of the venture, (B) the probability of any financial return to the non-Federal participants arising from the venture, (C) the financial capability of the potential non-Federal participants, and (D) such other factors as the Administrator may set forth in proposing the corporation: *Provided*, That in no instance shall the Federal share exceed 90 per centum of the cost.

(7) No such corporation shall be established unless previously authorized by specific legislation enacted by the Congress.

(c) Competitive systems of price supports proposed for congressional authorization pursuant to this Act shall conform to the following guidelines:

(1) The Administrator shall determine the types and capacities of the desired full-scale, commercial-size facility or other operation which would demonstrate the technical, environmental, and economic feasibility of a particular nonnuclear energy technology.

(2) The Administrator may award planning grants for the purpose of financing a study of the full cycle economic and environmental costs associated with the demonstration facility selected pursuant to paragraph (1) of this subsection. Such planning grants may be awarded to Federal and non-Federal entities including, but not limited to, industrial entities, universities, and nonprofit organizations. Such planning grants may also be used by the grantee to prepare a detailed and comprehensive bid to construct the demonstration facility.

(3) Following the completion of the studies pursuant to the planning grants awarded under paragraph (2) of this subsection regarding each such potential price supported demonstration facility for which the Administrator intends to request congressional authorization, he shall invite bids from all interested parties to determine the minimum amount of Federal price support needed to construct the demonstration facility. The Administrator may designate one or more competing entities, each to construct one commercial demonstration facility. Such designation shall be made on the basis of those entities, (A) commitment to construct the demonstration facility at the minimum level of Federal price supports, (B) detailed plan of environmental protection, and (C) proposed design and operation of the demonstration facility.

(4) The construction plans and actual construction of the demonstration facility, together with all related facilities, shall be monitored by the Environmental Protection Agency. If additional environmental requirements are imposed by the Administrator after the designation of the successful bidders and if such additional environmental requirements result in additional costs, the Administrator is authorized to renegotiate the support price to cover such additional costs.

(5) The estimated amount of the Federal price support for a demonstration facility's product over the life of such facility shall be determined by the Administrator to facilitate a single congressional authorization of the full amount of such support at the time of the designation of the successful bidders.

(6) No price support program shall be implemented unless previously authorized by specific legislation enacted by the Congress.

(d) Nothing in this section shall preclude Federal participation in and support for, joint university-industry nonnuclear energy research efforts.

DEMONSTRATIONS

SEC. 8. [42 U.S.C. 5907] (a) The Administrator is authorized to—

(1) identify opportunities to accelerate the commercial applications of new energy technologies, and provide Federal assistance for or participation in demonstration projects (including pilot plants demonstrating technological advances and field demonstrations of new methods and procedures, and demonstrations of prototype commercial applications for the exploration, development, production, transportation, conversion, and utilization of energy resources); and

(2) enter into cooperative agreements with non-Federal entities to demonstrate the technical feasibility and economic potential of energy technologies on a prototype or full-scale basis.

(b) In reviewing potential projects, the Administrator shall consider criteria including but not limited to—

(1) the anticipated research, development, and application objectives to be achieved by the activities or facilities proposed;

(2) the economic, environmental, and societal significance which a successful demonstration may have for the national fuels and energy system;

(3) the relationship of the proposal to the criteria of priority set forth in section 5(b)(2);

(4) the availability of non-Federal participants to construct and operate the facilities or perform the activities associated with the proposal and to contribute to the financing of the proposal;

(5) the total estimated cost including the Federal investment and the probable time schedule;

(6) the proposed participants and the proposed financial contributions of the Federal Government and of the non-Federal participants; and

(7) the proposed cooperative arrangement, agreements among the participants, and form of management of the activities.

(c)(1) A financial award under this section may be made only to the extent of the Federal share of the estimated total design and construction costs, plus operation and maintenance costs.

(2) For the purposes of this Act the non-Federal share may be in any form, including, but not limited to, lands or interests therein needed for the project or personal property or services, the value of which shall be determined by the Administrator.

(d)(1) The Administrator shall, within six months of enactment of this Act, promulgate regulations establishing procedures for submission of proposals to the Energy Research and Development Administration for the purposes of this Act. Such regulations shall establish a procedure for selection of proposals which—

(A) provides that projects will be carried out under such conditions and varying circumstances as will assist in solving energy extraction, transportation, conversion, conservation, and end-use problems of various areas and regions, under representative geological, geographic, and environmental conditions; and

(B) provides time schedules for submission of, and action on, proposal requests for the purposes of implementing the goals and objectives of this Act.

(2) Such regulations also shall specify the types and form of the information, data, and support documentation that are to be contained in proposals for each form of Federal assistance or participation set forth in subsection 7(a): *Provided*, That such proposals to the extent possible shall include, but not be limited to—

(A) specification of the technology;

(B) description of prior pilot plant operating experience with the technology;

(C) preliminary design of the demonstration plant;

(D) time tables containing proposed construction and operation plans;

(E) budget-type estimates of construction and operating costs;

(F) description and proof of title to land for proposed site, natural resources, electricity and water supply and logistical information related to access to raw materials to construct and operate the plant and to dispose of salable products produced from the plant;

(G) analysis of the environmental impact of the proposed plant and plans for disposal of wastes resulting from the operation of the plant;

(H) plans for commercial use of the technology if the demonstration is successful;

(I) plans for continued use of the plant if the demonstration is successful; and

(J) plans for dismantling of the plant if the demonstration is unsuccessful or otherwise abandoned.

(3) The Administrator shall from time to time review and, as appropriate, modify and re promulgate regulations issued pursuant to this section.

(e) If the estimate of the Federal investment with respect to construction costs of any demonstration project proposed to be established under this section exceeds \$50,000,000, no amount may be appropriated for such project except as specifically authorized by legislation hereafter enacted by the Congress.

(f) If the total estimated amount of the Federal contribution to the construction cost of a demonstration project does not exceed \$50,000,000, the Administrator is authorized to proceed with the negotiation of agreements and implementation of the proposal subject to the availability of funds under the authorization of appropriations pursuant to section 16: *Provided*, That if such Federal contribution to the construction cost is estimated to exceed \$25,000,000 the Administrator shall provide a full and comprehensive report on the proposed demonstration project to the appropriate committees of the Congress and no funds may be expended for any agreement under the authority granted by this section prior to the expiration of sixty calendar days (not including any day on which either House of Congress is not in session because of an adjournment of more than three calendar days to a day certain) from the date on which the Administrator's report on the proposed project is received by the Congress. Such reports shall contain an analysis of the extent to which the proposed demonstration satisfies the criteria specified in subsection (b) of this section.

PATENT POLICY

SEC. 9. [42 U.S.C. 5908] (a) Whenever any invention is made or conceived in the course of or under any contract of the Administration, other than nuclear energy research, development, and demonstration pursuant to the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.) and the Administrator determines that—

(1) the person who made the invention was employed or assigned to perform research, development, or demonstration work and the invention is related to the work he was employed or assigned to perform, or that it was within the scope of his employment duties, whether or not it was made during working hours, or with a contribution by the Government of the use of Government facilities, equipment, materials, allocated funds, information proprietary to the Government, or services of Government employees during working hours; or

(2) the person who made the invention was not employed or assigned to perform research, development, or demonstration work, but the invention is nevertheless related to the contract or to the work or duties he was employed or assigned to

perform, and was made during working hours, or with a contribution from the Government of the sort referred to in clause (1);

title to such invention shall vest in the United States, and if patents on such invention are issued they shall be issued to the United States, unless in particular circumstances the Administrator waives all or any part of the rights of the United States to such invention in conformity with the provisions of this section.

(b) Each contract entered into by the Administration with any person shall contain effective provisions under which such person shall furnish promptly to the Administration a written report containing full and complete technical information concerning any invention, discovery, improvement, or innovation which may be made in the course of or under such contract.

(c) Under such regulations in conformity with the provisions of this section as the Administrator shall prescribe, the Administrator may waive all or any part of the rights of the United States under this section with respect to any invention or class of inventions made or which may be made by any person or class of persons in the course of or under any contract of the Administration if he determines that the interests of the United States and the general public will best be served by such waiver. The Administration shall maintain a publicly available, periodically updated record of waiver determinations. In making such determinations, the Administrator shall have the following objectives:

(1) Making the benefits of the energy research, development, and demonstration program widely available to the public in the shortest practicable time.

(2) Promoting the commercial utilization of such inventions.

(3) Encouraging participation by private persons in the Administration's energy research, development, and demonstration program.

(4) Fostering competition and preventing undue market concentration or the creation or maintenance of other situations inconsistent with the antitrust laws.

(d) In determining whether a waiver to the contractor at the time of contracting will best serve the interests of the United States and the general public, the Administrator shall specifically include as considerations—

(1) the extent to which the participation of the contractor will expedite the attainment of the purposes of the program;

(2) the extent to which a waiver of all or any part of such rights in any or all fields of technology is needed to secure the participation of the particular contractor;

(3) the extent to which the contractor's commercial position may expedite utilization of the research, development, and demonstration program results;

(4) the extent to which the Government has contributed to the field of technology to be funded under the contract;

(5) the purpose and nature of the contract, including the intended use of the results developed thereunder;

(6) the extent to which the contractor has made or will make substantial investment of financial resources or tech-

nology developed at the contractor's private expense which will directly benefit the work to be performed under the contract;

(7) the extent to which the field of technology to be funded under the contract has been developed at the contractor's private expense;

(8) the extent to which the Government intends to further develop to the point of commercial utilization the results of the contract effort;

(9) the extent to which the contract objectives are concerned with the public health, public safety, or public welfare;

(10) the likely effect of the waiver on competition and market concentration; and

(11) in the case of a nonprofit educational institution, the extent to which such institution has a technology transfer capability and program, approved by the Administrator as being consistent with the applicable policies of this section.

(e) In determining whether a waiver to the contractor or inventor of rights to an identified invention will best serve the interests of the United States and the general public, the Administrator shall specifically include as considerations paragraphs (4) through (11) of subsection (d) as applied to the invention and—

(1) the extent to which such waiver is a reasonable and necessary incentive to call forth private risk capital for the development and commercialization of the invention; and

(2) the extent to which the plans, intentions, and ability of the contractor or inventor will obtain expeditious commercialization of such invention.

(f) Whenever title to an invention is vested in the United States, there may be reserved to the contractor or inventor—

(1) a revocable or irrevocable nonexclusive, paid-up license for the practice of the invention throughout the world; and

(2) the rights to such invention in any foreign country where the United States has elected not to secure patent rights and the contractor elects to do so, subject to the rights set forth in paragraphs (2), (3), (6), and (7) of subsection (h): *Provided*, That when specifically requested by the Administration and three years after issuance of such a patent, the contract shall submit the report specified in subsection (h)(1) of this section.

[(g), (h), (i) Repealed by Public Law 96-517.]

(j) The Administrator shall, in granting waivers or licenses, consider the small business status of the applicant.

(k) The Administrator is authorized to take all suitable and necessary steps to protect any invention or discovery to which the United States hold title, and to require that contractors or persons who acquire rights to inventions under this section protect such inventions.

(l) The Administration shall be considered a defense agency of the United States for the purpose of chapter 17 of title 35 of the United States Code.

(m) As used in this section—

(1) the term "person" means any individual, partnership, corporation, association, institution, or other entity;

(2) the term "contract" means any contract, grant, agreement, understanding, or other arrangement, which includes re-

search, development, or demonstration work, and includes any assignment, substitution of parties, or subcontract executed or entered into thereunder;

(3) the term "made", when used in relation to any invention means the conception or first actual reduction to practice of such invention;

(4) the term "invention" means inventions or discoveries, whether patented or unpatented; and

(5) the term "contractor" means any person having a contract with or on behalf of the Administration.

(n) Within twelve months after the date of the enactment of this Act, the Administrator with the participation of the Attorney General, the Secretary of Commerce, and other officials as the President may designate, shall submit to the President and the appropriate congressional committees a report concerning the applicability of existing patent policies affecting the programs under this Act, along with his recommendations for amendments or additions to the statutory patent policy, including his recommendations on mandatory licensing, which he deems advisable for carrying out the purposes of this Act.

RELATIONSHIP TO ANTITRUST LAWS

SEC. 10. [42 U.S.C. 5909] (a) Nothing in this Act shall be deemed to convey to any individual, corporation, or other business organization immunity from civil or criminal liability, or to create defenses to actions, under the antitrust laws.

(b) As used in this section, the term "antitrust law" means—

(1) the Act entitled "An Act to protect trade and commerce against unlawful restraints and monopolies", approved July 2, 1890 (15 U.S.C. 1 et seq.), as amended;

(2) the Act entitled "An Act to supplement existing laws against unlawful restraints and monopolies, and for other purposes", approved October 15, 1914 (15 U.S.C. 12 et seq.) as amended;

(3) the Federal Trade Commission Act (15 U.S.C. 41 et seq.), as amended;

(4) sections 73 and 74 of the Act entitled "An Act to reduce taxation, to provide revenue for the Government, and for other purposes", approved August 27, 1894 (15 U.S.C. 8 and 9), as amended; and

(5) the Act of June 19, 1936, chapter 592 (15 U.S.C. 13, 13a, 13b, and 21a).

[SEC. 11. Repealed by section 2021(i) of Public Law 104-66 (109 Stat. 727).]

ACQUISITION OF ESSENTIAL MATERIALS

SEC. 12. [42 U.S.C. 5911] (a) The President may, by rule or order, require the allocation of, or the performance under contracts or orders (other than contracts of employment) relating to, supplies of materials and equipment if he finds that—

(1) such supplies are scarce, critical, and essential to carry out the purposes of this Act; and

(2) such supplies cannot reasonably be obtained without exercising the authority granted by this section.

(b) The President shall transmit any rule or order proposed under subsection (a) of this section (bearing an identification number) to each House of Congress on the date on which it is proposed. If such proposed rule or order is transmitted to the Congress such proposed rule or order shall take effect at the end of the first period of thirty calendar days of continuous session of Congress after the date on which such proposed rule or order is transmitted to it unless, between the date of transmittal and the end of the thirty day period, either House passes a resolution stating in substance that such House does not favor such a proposed rule or order.

WATER RESOURCE EVALUATION

SEC. 13. [42 U.S.C. 5912] (a) The Water Resources Council shall undertake assessments of water resource requirements and water supply availability for any nonnuclear energy technology and any probable combinations of technologies which are the subject of Federal research and development efforts authorized by this Act, and the commercial development of which could have significant impacts on water resources. In the preparation of its assessment, the Council shall—

(1) utilize to the maximum extent practicable data on water supply and demand available in the files of member agencies of the Council;

(2) collect and compile any additional data it deems necessary for complete and accurate assessments;

(3) give full consideration to the constraints upon availability imposed by treaty, compact, court decree, State water laws, and water rights granted pursuant to State and Federal law;

(4) assess the effects of development of such technology on water quality;

(5) include estimates of cost associated with production and management of the required water supply, and the cost of disposal of waste water generated by the proposed facility or process;

(6) assess the environmental, social, and economic impact of any change in use of currently utilized water resource that may be required by the proposed facility or process; and

(7) consult with the Council on Environmental Quality.

(b) For any proposed demonstration project which may involve a significant impact on water resources, the Administrator shall, as a precondition of Federal assistance to that project, request the Water Resources Council to prepare an assessment of water requirements and availability for such project. A report on the assessment shall be published in the Federal Register for public review thirty days prior to the expenditure of Federal funds on the demonstration.

(c) For any proposed Federal assistance for commercial application of energy technologies pursuant to this Act, the Water Resource Council shall, as a precondition of such Federal assistance, provide to the Administrator an assessment of the availability of adequate water resources for such commercial application and an evaluation of the environmental, social, and economic impacts of the dedication of water to such uses.

(d) Reports of assessments and evaluations prepared by the Council pursuant to subsections (a) and (c) shall be published in the Federal Register and at least ninety days shall be provided for public review and comment. Comments received shall accompany the reports when they are submitted to the Administrator and shall be available to the public.

(e) The Council shall include a broad survey and analysis of regional and national water resource availability for energy development in the biennial assessment required by section 102(a) of the Water Resources Planning Act (42 U.S.C. 1962a-1(a)).

(f) The Administrator shall, upon enactment of this subsection, be a member of the Council.

ENERGY-RELATED INVENTIONS

SEC. 14. [42 U.S.C. 5913] The National Bureau of Standards shall give particular attention to the evaluation of all promising energy-related inventions, particularly those submitted by individual inventors and small companies for the purpose of obtaining direct grants from the Administrator. The National Bureau of Standards is authorized to promulgate regulations in the furtherance of this section.

REPORTS TO CONGRESS

SEC. 15. [42 U.S.C. 5914] (a) Concurrent with the submission of the President's annual budget to the Congress, the Administrator shall submit to the Congress each year—

(1) a report detailing the activities carried out pursuant to this Act during the preceding fiscal year;

(2) a detailed description of the comprehensive plan for nuclear and nonnuclear energy research, development, and demonstration then in effect under section 6(a); and

(3) a detailed description of the comprehensive nonnuclear research, development, and demonstration program then in effect under section 6(b) including its program elements and activities,

setting forth such modifications in the comprehensive plan referred to in clause (2) and the comprehensive program referred to in clause (3) as may be necessary to revise appropriately such plan and program in the light of the activities referred to in clause (1) and any changes in circumstances which may have occurred since the last previous report under this subsection.

(b) The description of the comprehensive nonnuclear research, development, and demonstration program submitted under subsection (a)(2) shall include a statement setting forth—

(1) the anticipated research, development, and application objections to be achieved by the proposed program;

(2) the economic, environmental, and societal significance which the proposed program may have;

(3) the total estimated costs of individual program items;

(4) the estimated relative financial contributions of the Federal Government and non-Federal participants in the research and development program;

(5) the relationship of the proposed program to any Federal national energy or fuel policies; and

(6) the relationship of any short-term undertakings and expenditures to long-range goals.

(c) The reports required by subsections (a) and (b) of this section will satisfy the reporting requirements of section 307(a) of the Energy Reorganization Act of 1974 (Public Law 93-438) insofar as is concerned activities, goals, priorities, and plans of the Energy Research and Development Administration pertaining to non-nuclear energy.

APPROPRIATION AUTHORIZATION

SEC. 16. [42 U.S.C. 5915] (a) There may be appropriated to the Administrator to carry out the purposes of this Act such sums as may be authorized in annual authorization Acts.

(b) Of the amounts appropriated pursuant to subsection (a) of this section—

(1) \$500,000 annually shall be made available by fund transfer to the Council on Environmental Quality for the purposes authorized by section 11; and

(2) not to exceed \$1,000,000 annually shall be made available by fund transfer to the Water Resources Council for the purposes authorized by section 13.

(c) There also may be appropriated to the Administrator by separate Acts such amounts as are required for demonstration projects for which the total Federal contribution to construction costs exceeds \$50,000,000.

CENTRAL SOURCE OF NONNUCLEAR ENERGY INFORMATION

SEC. 17. [42 U.S.C. 5916] The Administrator shall promptly establish, develop, acquire, and maintain a central source of information on all energy resources and technology in furtherance of the Administrator's research, development, and demonstration mission carried out directly or indirectly under this Act. When the Administrator determines that such information is needed to carry out the purposes of this Act, he may acquire proprietary and other information (a) by purchase through negotiation or by donation from any person, or (b) from another Federal agency. The information maintained by the Administrator shall be made available to the public, subject to the provisions of section 552 of title 5, United States Code, and section 1905 of title 18, United States Code, and to other Government agencies in a manner that will facilitate its dissemination; *Provided*, That upon a showing satisfactory to the Administrator by any person that any information, or portion thereof, obtained under this section by the Administrator directly or indirectly from such person, would, if made public, divulge (1) trade secrets or (2) other proprietary information of such person, the Administrator shall not disclose such information and disclosure thereof shall be punishable under section 1905 or title 18, United States Code: *Provided further*, That the Administrator shall, upon request, provide such information to (A) any delegate of the Administrator for the purpose of carrying out this Act, and (B) the Attorney General, the Secretary of Agriculture, the Secretary of the Interior, the Federal Trade Commission, the Federal Energy Administration, the Environmental Protection Agency, the Federal Power Commission, the General Accounting Office, other

Federal agencies, when necessary to carry out their duties and responsibilities under this and other statutes, but such agencies and agency heads shall not release such information to the public. This section is not authority to withhold information from Congress or any committee of Congress upon request of the chairman.

ENERGY INFORMATION

SEC. 18. [42 U.S.C. 5917] The Administrator is, upon request, authorized to obtain energy information under section 11(d) of the Energy Supply and Environmental Coordination Act of 1974, as amended (15 U.S.C. 796(d)).

LOAN GUARANTEES FOR ALTERNATIVE FULL DEMONSTRATION FACILITIES

SEC. 19. [42 U.S.C. 5919] (a) It is the purpose of this section—

(1) to assure adequate Federal support to foster a demonstration program to produce alternative fuels from coal, oil shale, biomass, and other domestic resources;

(2) to authorize assistance, through loan guarantees under subsection (b) and (y) for construction and startup and related costs, to demonstration facilities for the conversion of domestic coal, oil shale, biomass, and other domestic resources into alternative fuels; and

(3) to gather information about the technological, economic, environmental, and social costs, benefits, and impacts of such demonstration facilities.

(b)(1) Except as provided in paragraph (5) of this subsection and subsection (y) of this section the Administrator is authorized, in accordance with such rules and regulations as he shall prescribe after consultation with the Secretary of the Treasury, to guarantee and to make commitments to guarantee, in such manner and subject to such conditions (not inconsistent with the provisions of this Act) as he deems appropriate, the payment of interest on, and the principal balance of, bonds, debentures, notes, and other obligations issued by, or on behalf of, any borrower for the purpose of financing the construction and startup costs of demonstration facilities for the conversion of domestic coal, oil shale, biomass, and other domestic resources into alternative fuels: *Provided*, That no loan guarantee for a full sized oil shale facility shall be provided under this section until after successful demonstration of a modular facility producing between six and ten thousand barrels per day, taking into account such considerations as water usage, environmental effects, waste disposal, labor conditions, health and safety, and the socioeconomic impacts on local communities: *Provided further*, That no loan guarantee shall be available under this subsection for the manufacture of component parts for demonstration facilities eligible for assistance under this subsection.

(2) An applicant for any financial assistance under this section shall provide information to the Administrator in such form and with such content as the Administrator deems necessary.

(3) Prior to issuing any guarantee under this section the Administrator shall obtain the concurrence of the Secretary of the Treasury with respect to the timing, interest rate, and substantial terms and conditions of such guarantee. The Secretary of the

Treasury shall insure to the maximum extent feasible that the timing, interest rate, and substantial terms and conditions of such guarantee will have the minimum possible impact on the capital markets of the United States, taking into account other Federal direct and indirect securities activities.

(4) The full faith and credit of the United States is pledged to the payment of all guarantees issued under this section with respect to principal and interest.

(5)(A) The Administrator is authorized, in the case of a facility for the conversion of oil shale to alternative fuels which is determined by the Administrator pursuant to the proviso in paragraph (1) of this subsection, to be constructed at a modular size, to enter into a cooperative agreement with the applicant in accordance with section 8 of this Act and the other provisions of this Act to share the estimated total design and construction costs, plus operation and maintenance costs, of such modular facility. The Federal share shall not exceed 75 per centum of such costs. All receipts for the sale of any products produced during the operation of the facility shall be used to offset the costs incurred in the operation and maintenance of the facility. The provisions of subsections (d), (e), (k), (m), (p), (s), (t), (u), (v), (w), and (x) shall apply to any such modular facility. The provisions of this section shall apply to any loan guarantee for such modular facility.

(B) After successful demonstration of the modular facility, as determined by the Administrator, the facility is eligible for financial assistance under this section for purposes of expansion to a full sized facility and the applicant may purchase the Federal share interest in the modular facility as represented by the Federal share thereof by means of (i) a cash payment to the United States, or (ii) a share of the product or sales resulting from such expanded operation, as determined by the Administrator. If expansion of such facility is determined not to be warranted by the Administrator, he may, at the option of the applicant, dispose of the modular facility to the applicant at not less than fair market value, as determined by the Administrator as of the date of the disposal, or otherwise dispose of it, in accordance with applicable provisions of law, and distribute the net proceeds thereof, after expenses of such disposal, to the applicant in proportion to the applicant's share of the costs of such facility.

(6) To the extent possible, loan guarantees shall be issued on the basis of competitive bidding among guarantee applicants in a particular technology area.

(c) The Administrator, with due regard for the need for competition, shall guarantee or make a commitment to guarantee any obligation under subsection (b) or (y) only if—

(1) the Administrator is satisfied that the financial assistance applied for is necessary to encourage financial participation;

(2) the amount guaranteed to any borrower at any time does not exceed—

(A) an amount equal to 75 per centum of the project cost of the demonstration facility as estimated at the time the guarantee is issued, which cost shall not include amounts expended for facilities and equipment used in the extraction of a mineral other than coal or shale, and in the

case of coal only to the extent that the Administrator determines that the coal is to be converted to alternative fuel; and

(B) an amount equal to 60 per centum of that portion of the actual total project cost of any demonstration facility which exceeds the project cost of such facility as estimated at the time the loan guarantee is issued;

(3) the Administrator has determined that there will be a continued reasonable assurance of full repayment;

(4) the obligation is subject to the condition that it not be subordinated to any other financing;

(5) the Administrator has determined, taking into consideration all reasonably available forms of assistance under this section and other Federal and State statutes, that the impacts resulting from the proposed demonstration facility have been fully evaluated by the borrower, the Administrator, and the Governor of the affected State, and that effective steps have been taken or will be taken in a timely manner to finance community planning and development costs resulting from such facility under this section, under other provisions of law, or by other means;

(6) the maximum maturity of the obligation does not exceed twenty years, or 90 per centum of the projected useful economic life of the physical assets of the demonstration facility covered by the guarantee, whichever is less, as determined by the Administrator;

(7) the Administrator has determined that, in the case of any demonstration or modular facility planned to be located on Indian lands, the appropriate Indian tribe, with the approval of the Secretary of the Interior, has given written consent to such location;

(8) the obligation provides for the orderly and ratable retirement of the obligation and includes sinking fund provisions, installment payment provisions or other methods of payments and reserves as may be reasonably required by the Administrator. Prior to approving and repayment schedule the Administrator may consider the date on which operating revenues are anticipated to be generated by the project. To the maximum extent possible repayment or provision therefor shall be required to be made in equal payments payable at equal intervals; and

(9) the obligation provides that the Administrator shall, after, a period of not less than ten years from issuance of the obligation, taking into consideration whether the Government's needs for information to be derived from the project have been substantially met and whether the project is capable of commercial operation, determine the feasibility and advisability of terminating the Federal participation in the project. In the event that such determination is positive, the Administrator shall notify the borrower and provide the borrower with not less than two nor more than three years in which to find alternative financing. At the expiration of the designated period of time, if the borrower has been unable to secure alternative financing, the Administrator is authorized to collect from the

borrower an additional fee of 1 per centum per annum on the remaining obligation to which the Federal guarantee applies. [(d) Repealed by Public Law 96-470.]

(e)(1) As soon as the Administrator knows the geographic location of a proposed facility for which a guarantee or a commitment to guarantee or cooperative agreement is sought under this section, he shall inform the Governor of the State, and officials of each political subdivision and Indian Tribe, as appropriate, in which the facility would be located or which would be impacted by such facility. The Administrator shall not guarantee or make a commitment to guarantee or enter into a cooperative agreement under subsection (b) or subsection (y) of this section, if the Governor of the State in which the proposed facility would be located recommends that such action not be taken, unless the Administrator finds that there is an overriding national interest in taking such action in order to achieve the purpose of this section. If the Administrator decides to guarantee or make a commitment to guarantee or enter into a cooperative agreement despite a Governor's recommendation not to take such action, the Administrator shall communicate, in writing, to the Governor reasons for not concurring with such recommendation. This Administrator's decision, pursuant to this subsection, shall be final unless determined upon judicial review initiated by the Governor to be unlawful by the reviewing court pursuant to 5 U.S.C. 706(2) (A) through (D). Such review shall take place in the United States court of appeals for the circuit in which the State involved is located, upon application made within ninety days from the date of such decision. The Administrator shall, by regulation, establish procedures for review of, and comment on, the proposed facility by States, local political subdivisions, and Indian tribes which may be impacted by such facility, and the general public.

(2) The Administrator shall review and approve the plans of the applicant for the construction and operation of any demonstration and related facilities constructed or to be constructed with assistance under this section. Such plans and the actual construction shall include such monitoring and other data-gathering costs associated with such facility as are required by the comprehensive plan and program under this section. The Administrator shall determine the estimated total cost of such demonstration facility, including, but not limited to, construction costs, startup costs, costs to political subdivisions and Indian tribe by such facility, and cost of any water storage facilities needed in connection with such demonstration facility, and determine who shall pay such costs. Such determination shall not be binding upon the States, political subdivisions, or Indian tribes.

(3) There is hereby established a panel to advise the Administrator on matters relating to the program authorized by this section, including, but not limited to, the impact of the demonstration facilities on communities and States and Indian tribes, the environmental and health and safety effects of such facilities, and the means, measures, and planning for preventing or mitigating such impacts, and other matters relating to the development of alternative fuels and other energy sources under this section. The panel shall include such Governors or their designees as shall be designated by the Chairman of the National Governors Conference.

Representatives of Indian tribes, industry, environmental organizations, and the general public shall be appointed by the Administrator. The Chairman of the panel shall be selected by the Administrator. No person shall be appointed to the panel who has a financial interest in any applicant applying for assistance under this section. Members of the panel shall serve without compensation. The provisions of section 106(e) of the Energy Reorganization Act of 1974 (42 U.S.C. 5816(e)) shall apply to the panel.

(f) Except in accordance with reasonable terms and conditions contained in the written contract of guarantee, no guarantee issued or commitment to guarantee made under this section shall be terminated, canceled, or otherwise revoked. Such a guarantee or commitment shall be conclusive evidence that the underlying obligation is in compliance with the provisions of this section and that such obligation has been approved and is legal as to principal, interest, and other terms. Subject to the conditions of the guarantee or commitment to guarantee, such a guarantee shall be incontestable in the hands of the holder of the guaranteed obligation, except as to fraud or material misrepresentation on the part of the holder.

(g)(1) If there is a default by the borrower, as defined in regulations promulgated by the Administrator and in the guarantee contract, the holder of the obligation shall have the right to demand payment of the unpaid amount from the Administrator. Within such period as may be specified in the guarantee or related agreements, the Administrator shall pay to the holder of the obligation the unpaid interest on, and unpaid principal of, the guaranteed obligation as to which the borrower has defaulted, unless the Administrator finds that there was no default by the borrower in the payment of interest or principal or that such default has been remedied. Nothing in this section shall be construed to preclude any forbearance by the holder of the obligation for the benefit of the borrower which may be agreed upon by the parties to the guaranteed obligation and approved by the Administrator.

(2) If the Administrator makes a payment under paragraph (1) of this subsection, the Administrator shall be subrogated to the rights of the recipient of such payment (and such subrogation shall be expressly set forth in the guarantee or related agreements), including the authority to complete, maintain, operate, lease, or otherwise dispose of any property acquired pursuant to such guarantee or related agreements, or any other property of the borrower (of a value equal to the amount of such payment) to the extent that the guarantee applies to amounts in excess of the estimated project cost under subsection (c)(2)(B), without regard to the provisions of the Federal Property and Administrative Services Act of 1949, as amended, except section 207 of that Act (40 U.S.C. 488), or any other law, or to permit the borrower pursuant to an agreement with the Administrator, to continue to pursue the purposes of the demonstration facility if the Administrator determines that this is in the public interest. The rights of the Administrator with respect to any property acquired pursuant to such guarantee or related agreements, shall be superior to the rights of any other person with respect to such property.

(3) In the event of a default on any guarantee under this section, the Administrator shall notify the Attorney General, who shall take such action as may be appropriate to recover the

amounts of any payments made under paragraph (1) including any payment of principal and interest under subsection (h) from such assets of the defaulting borrower as are associated with the demonstration facility, or from any other security included in the terms of the guarantee.

(4) For purposes of this section, patents, including any inventions for which a waiver was made by the Administrator under section 9 of this Act, and technology resulting from the demonstration facility, shall be treated as project assets of such facility. The guarantee agreement shall include such detailed terms and conditions as the Administrator deems appropriate to protect the interests of the United States in the case of default and to have available all the patents and technology necessary for any person selected, including, but not limited to the Administrator, to complete and operate the defaulting project. Furthermore, the guarantee agreement shall contain a provision specifying that patents, technology, and other proprietary rights which are necessary for the completion or operation of the demonstration facility shall be available to the United States and its designees on equitable terms, including due considerations to the amount of the United States default payments. Inventions made or conceived in the course of or under such guarantee, title to which is vested in the United States under this Act, shall not be treated as project assets of such facility for disposal purposes under this subsection, unless the Administrator determines in writing that it is in the best interests of the United States to do so.

(h) With respect to any obligation guaranteed under this section, the Administrator is authorized to enter into a contract to pay, and to pay, holders of the obligations, for and on behalf of the borrowers, from the fund established by this section, the principal and interest payments which become due and payable on the unpaid balance of such obligation if the Administrator finds that—

(1) the borrower is unable to meet such payments and is not in default; it is in the public interest to permit the borrower to continue to pursue the purposes of such demonstration facility; and the probable net benefit to the Federal Government in paying such principal and interest will be greater than that which would result in the event of a default;

(2) the amount of such payment which the Administrator is authorized to pay shall be no greater than the amount of principal and interest which the borrower is obligated to pay under the loan agreement; and

(3) the borrower agrees to reimburse the Administrator for such payment on terms and conditions, including interest, which are satisfactory to the Administrator.

(i) Regulations required by this section shall be issued within one hundred and eighty days after enactment of this section. All regulations under this section and any amendments thereto shall be issued in accordance with section 553 of title 5, of the United States Code.

(j) The Administrator shall charge and collect fees for guarantees of obligations authorized by subsection (b)(1), in amounts which (1) are sufficient in the judgment of the Administrator to cover the applicable administrative costs, and (2) reflect the percentage of projects costs guaranteed. In no event shall the fee be

less than 1 per centum per annum of the outstanding indebtedness covered by the guarantee. Nothing in this subsection shall be construed to apply to community planning and development assistance pursuant to subsection (k) of this section.

(k)(1) In accordance with such rules and regulations as the Administrator in consultation with the Secretary of the Treasury shall prescribe, and subject to such terms and conditions as he deems appropriate, the Administrator is authorized, for the purpose of financing essential community development and planning which directly result from, or are necessitated by, one or more demonstration facilities assisted under this section to—

(A) guarantee and make commitments to guarantee the payment of interest on, and the principal balance of obligations for such financing issued by eligible States, political subdivisions, or Indian tribes,

(B) guarantee and make commitments to guarantee the payment of taxes imposed on such demonstration facilities by eligible non-Federal taxing authorities which taxes are earmarked by such authorities to support the payment of interest and principal on obligations for such financing, and

(C) require that the applicant for assistance for a demonstration facility under this section advance sums of eligible States, political subdivisions, and Indian tribes to pay for the financing of such development and planning: *Provided*, That the State, political subdivision, or Indian tribe agrees to provide tax abatement credits over the life of the facilities for such payments by such applicant.

(2) Prior to issuing any guarantee under this subsection, the Administrator shall obtain the concurrence of the Secretary of the Treasury with respect to the timing, interest rate, and substantial terms and conditions of such guarantee. The Secretary of the Treasury shall insure to the maximum extent feasible that the timing, interest rate, and substantial terms and conditions of such guarantee will have the minimum possible impact on the capital markets of the United States, taking into account other Federal direct and indirect securities activities.

(3) In the event of any default by the borrower in the payment of taxes guaranteed by the Administrator under this subsection, the Administrator shall pay out of the fund established by this section such taxes at the time or times they may fall due, and shall have by reason of such payment a claim against the borrower for all sums paid plus interest.

(4) If after consultation with the State, political subdivision, or Indian tribe, the Administrator finds that the financial assistance programs of paragraph (1) of this subsection will not result in sufficient funds to carry out the purposes of this subsection, then the Administrator may—

(A) make direct loans to the eligible States, political subdivisions, or Indian tribes for such purposes: *Provided*, That such loans shall be made on such reasonable terms and conditions as the Administrator shall prescribe: *Provided further*, That the Administrator may waive repayment of all or part of a loan made under this paragraph, including interest, if the State or political subdivision or Indian tribe involved demonstrates to the satisfaction of the Administrator that due to

a change in circumstances there will be net adverse impacts resulting from such demonstration facility that would probably cause such State, subdivision, or tribe to default on the loan; or

(B) require that any community development and planning costs which are associated with, or result from, such demonstration facility and which are determined by the Administrator to be appropriate for such inclusion shall be included in the total costs of the demonstration facility.

(5) The Administrator is further authorized to make grants to States, political subdivisions, or Indian tribes for studying and planning for the potential economic, environmental, and social consequences of demonstration facilities, and for establishing related management expertise.

(6) At any time the Administrator may, with the concurrence of the Secretary of the Treasury, redeem, in whole or in part, out of the fund established by this section, the debt obligations guaranteed or the debt obligations for which tax payments are guaranteed under this subsection.

(7) When one or more States, political subdivisions, or Indian tribes would be eligible for assistance under this subsection, but for the fact that construction and operation of the demonstration facilities occurs outside its jurisdiction, the Administrator is authorized to provide, to the greatest extent possible, arrangements for equitable sharing of such assistance.

(8) Such amounts as may be necessary for direct loans and grants pursuant to this subsection shall be available as provided in annual authorization Acts.

(9) The Administrator, if appropriate, shall provide assistance in the financing of up to 100 per centum of the costs of the required community development and planning pursuant to this subsection.

(10) In carrying out the provisions of this subsection, the Administrator shall provide that title to any facility receiving financial assistance under this subsection shall vest in the applicable State, political subdivision, or Indian tribe, as appropriate, and in the case of default by the borrower on a loan guarantee such facility shall not be considered a project asset for the purposes of subsection (g) of this section.

(1)(1) The Administrator is directed to submit a report to the Congress within one hundred and eighty days after the enactment of this section setting forth his recommendations on the best opportunities to implement a program of Federal financial assistance with the objective of demonstrating production and conservation of energy. Such report shall be updated and submitted to Congress at least annually and shall include specific comments and recommendations by the Secretary of the Treasury on the methods and procedures set forth in subparagraph (B)(viii) of this subsection, including their adequacy, and changes necessary to satisfy the objectives stated in this subsection. This report shall include—

(A) a study of the purchase or commitment to purchase by the Federal Government, for the use by the United States, of all or a portion of the products of any alternative fuel facilities constructed pursuant to this program as a direct or an alternate form of Federal assistance, which assistance, if rec-

ommended, shall be carried out pursuant to section 7(a)(4) of this Act; and

(B) a comprehensive plan and program to acquire information and evaluate the environmental, economic, social, and technological impacts of the demonstration program under this section. In preparing such a comprehensive plan and program, the Administrator shall consult with the Environmental Protection Agency, the Federal Energy Administration, the Department of Housing and Urban Development, the Department of the Interior, the Department of Agriculture, and the Department of the Treasury, and shall include therein, but not be limited to, the following:

(i) information about potential demonstration facilities proposed in the program under this section;

(ii) any significant adverse impacts which may result from any activity included in the program;

(iii) the extent to which it is feasible to commercialize the technologies as they affect different regions of the Nation;

(iv) proposed regulations required to carry out the purposes of this section;

(v) a list of Federal agencies, governmental entities, and other persons that will be consulted or utilized to implement the program;

(vi) the methods and procedures by which the information gathered under the program will be analyzed and disseminated;

(vii) a plan for the study and monitoring of the health effects of such facilities on workers and other persons, including, but not limited to, any carcinogenic effect of alternative fuels; and

(viii) the methods and procedures to insure that (I) the use of the Federal assistance for demonstration facilities is kept to the minimum level necessary for the information objectives of this section, (II) the impact of loan guarantees on the capital markets of the United States is minimized, taking into account other Federal direct and indirect securities activities, and any economic sectors which may be negatively impacted as a result of the reduction of capital by the placement of guaranteed loans, and (III) the granting of Federal loan guarantees under this Act does not impede movement toward improvement in the climate for attracting private capital to develop alternative fuels without continued direct Federal incentives.

(2) The Administrator shall annually submit a detailed report to the Congress concerning—

(A) the actions taken or not taken by the Administrator under this section during the preceding fiscal year, and including, but not be limited to (i) a discussion of the status of each demonstration facility and related facilities financed under this section, including progress made in the development of such facilities, and the expected or actual production from each such facility, including byproduct production therefrom, and the distribution of such products and byproducts, (ii) a detailed statement of the financial conditions of each such demonstration fa-

cility, (iii) data concerning the environmental, community, and health and safety impacts of each such facility and the actions taken or planned to prevent or mitigate such impacts, (iv) the administrative and other costs incurred by the Administrator and other Federal agencies in carrying out this program, and (v) such other data as may be helpful in keeping Congress and the public fully and currently informed about the program authorized by this section; and

(B) the activities of the fund referred to in subsection (n) of this section during the preceding fiscal year, including a statement of the amount and source of fees or other moneys, property, or assets deposited into the funds, all payments made, the notes or other obligations issued by the Administrator, and such other data as may be appropriate.

(3) The annual reports required by this subsection shall be a part of the annual report required by section 15 of this Act, except that the matters required to be reported by this subsection shall be clearly set out and identified in such annual reports. Such reports and the one-hundred-and-eighty-day report required in paragraph (1) of this subsection shall be transmitted to the Speaker of the House of Representatives and the House Committee on Science, Space, and Technology and to the President of the Senate and the Committee on Energy and Natural Resources of the Senate.

(m) Prior to issuing any guarantee or commitment to guarantee or cooperative agreement pursuant to subsection (b) or subsection (y) of this section the Administrator shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Energy and Natural Resources of the Senate a full and complete report on the proposed demonstration facility and such guarantee, agreement, or contract. Such guarantee, commitment to guarantee, cooperative agreement, or contract shall not be finalized under the authority granted by this section prior to the expiration of ninety calendar days (not including any day on which either House of Congress is not in session because of an adjournment of more than three calendar days to a day certain) from the date on which such report is received by such committees: *Provided*, That, where the cost of a demonstration facility to be assisted with a guarantee or cooperative agreement pursuant to subsection (b) or subsection (y) of this section exceeds \$50,000,000 such guarantee or commitment to guarantee or cooperative agreement shall not be finalized unless (1) the making of such guarantee or commitment or agreement is specifically authorized by legislation hereafter enacted by the Congress or (2) both Houses pass a resolution stating in substance that the Congress favors the making of such guarantee or commitment or agreement.

(n)(1) There is hereby created within the Treasury a separate fund (hereafter in this section called the "fund") which shall be available to the Administrator without fiscal year limitation as a revolving fund for the purpose of carrying out the program authorized by subsection (b)(1) and subsections (g), (h), (k), and (y) of this section.

(2) There are hereby authorized to be appropriated to the fund for administrative expenses from time to time such amounts as may be necessary to carry out the purposes of the applicable provi-

sions of this section, including, but not limited to, the payments of interest and principal and the payment of interest differentials and redemption of debt. All amounts received by the Administrator as interest payments or repayments of principal on loans which are guaranteed under this section, fees, and any other moneys, property, or assets derived by him from operations under this section shall be deposited in the fund.

(3) All payments on obligations, appropriate expenses (including reimbursements to other Government accounts), and repayments pursuant to operations of the Administrator under this section shall be paid from the fund subject to appropriations. If at any time the Administrator determines that moneys in the fund exceed the present and reasonably foreseeable future requirements of the fund, such excess shall be transferred to the general fund of the Treasury.

(4) If at any time the moneys available in the fund are insufficient to enable the Administrator to discharge his responsibilities as authorized by subsections (b)(1), (g), (h), and (y) of this section, the Administrator shall issue to the Secretary of the Treasury notes or other obligations in such forms and denominations, bearing such maturities, and subject to such terms and conditions as may be prescribed by the Secretary of the Treasury. Redemption of such notes or obligations shall be made by the Administrator from appropriations or other moneys available under paragraph (2) of this subsection for loan guarantees authorized by subsection (b)(1) and subsections (g), (h), (k), and (y) of this section. Such notes or other obligations shall bear interest at a rate determined by the Secretary of the Treasury, which shall be not less than a rate determined by taking into consideration the average market yield on outstanding marketable obligations of the United States of comparable maturities during the month preceding the issuance of the notes or other obligations. The Secretary of the Treasury may at any time sell any of the notes or other obligations acquired by him under this subsection.

(5) The provisions of this subsection do not apply to direct loans or planning grants made under subsection (k) of this section.

(o) For the purposes of this section, the term—

(1) "State" means any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, the Virgin Islands, American Samoa, any territory or possession of the United States,

(2) "United States" means the several States, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, and American Samoa,

(3) "borrower" or "applicant" shall include any individual, firm, corporation, company, partnership, association, society, trust, joint venture, joint stock company, or other non-Federal entity, and

(4) "biomass" shall include, but is not limited to, animal and timber waste, municipal and industrial waste, sewage, sludge, and oceanic and terrestrial crops.

(p)(1) An applicant seeking a guarantee or cooperative agreement under subsection (b) or subsection (y) of this section must be a citizen or national of the United States. A corporation, partnership, firm, or association shall not be deemed to be a citizen or na-

tional of the United States unless the Administrator determines that it satisfactorily meets all the requirements of section 802 of title 46, United States Code, for determining such citizenship, except that the provisions in subsection (a) of such section 802 concerning (A) the citizenship of officers or directors of a corporation, and (B) the interest required to be owned in the case of a corporation, association, or partnership operating a vessel in the coastwise trade, shall not be applicable.

(2) The Administrator, in consultation with the Secretary of State, may waive such requirements in the case of a corporation, partnership, firm, or association, controlling interest in which is owned by citizens of countries which are participants in the International Energy Agreement.

(q) No part of the program authorized by this section shall be transferred to any other agency or authority, except pursuant to Act of Congress enacted after the date of enactment of this section.

(r) Inventions made or conceived in the course of or under a guarantee authorized by this section shall be subject to the title and waiver requirements and conditions of section 9 of this Act.

(s) Nothing in this section shall be construed as affecting the obligations of any person receiving financial assistance pursuant to this section to comply with Federal and State environmental, land use, water, and health and safety laws and regulations or to obtain applicable Federal and State permits, licenses, and certificates.

(t) The information maintained by the Administrator under this section shall be made available to the public subject to the provision of section 552 of title 5, United States Code, and section 1905 of title 18, United States Code, and to other Government agencies in a manner that will facilitate its dissemination: *Provided*, That upon a showing satisfactory to the Administrator by any person that any information, or portion thereof obtained under this section by the Administrator directly or indirectly from such person would, if made public, divulge (1) trade secrets or (2) other proprietary information of such person, the Administrator shall not disclose such information and disclosure thereof shall be punishable under section 1905 of title 18, United States Code: *Provided further*, That the Administrator shall, upon request, provide such information to (A) any delegate of the Administrator for the purpose of carrying out this Act, and (B) the Attorney General, the Secretary of Agriculture, the Secretary of the Interior, the Federal Trade Commission, the Federal Energy Administration, the Environmental Protection Agency, the Federal Power Commission, the General Accounting Office, other Federal agencies, or heads of other Federal agencies, when necessary to carry out their duties and responsibilities under this and other statutes, but such agencies and agency heads shall not release such information to the public. This section is not authority to withhold information from Congress, or from any committee of Congress upon request of the Chairman. For the purposes of this subsection, the term "person" shall include the borrower.

(u) Notwithstanding any other provision of this section, the authority provided in this section to make guarantees or commitments to guarantee or enter into cooperative agreements under subsection (b)(1) or subsection (y), to make guarantees or commitments to guarantees, or to make loans or grants, under subsection

(k), to make contracts under subsection (h), and to use fees and receipts collected under subsections (b), (j), and (y) of this section, and the authorities provided under subsection (n) of this section shall be effective only to the extent provided, without fiscal year limitation, in appropriation Acts enacted after the date of enactment of this section.

(v) No person in the United States shall on the grounds of race, color, religion, national origin, or sex, be excluded from participation in, be denied benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with assistance made available under this section: *Provided*, That Indian tribes are exempt from the operation of this subsection: *Provided further*, That such exemption shall be limited to the planning and provision of public facilities which are located on reservations and which are provided for members of the affected Indian tribes as the primary beneficiaries.

(w) In carrying out his functions under this section, the Administrator shall provide a realistic and adequate opportunity for small business concerns to participate in the program to the optimum extent feasible consistent with the size and nature of each project.

(x)(1) recipients of financial assistance under this section shall keep such records and other pertinent documents, as the Administrator shall prescribe by regulation, including, but not limited to, records which fully disclose the disposition of the proceeds of such assistance, the cost of any facility, the total cost of the provision of public facilities for which assistance was used and such other records as the Administrator may require to facilitate an effective audit. The Administrator and the Comptroller General of the United States, or their duly authorized representative shall have access, for the purpose of audit, to such records and other pertinent documents.

(2) All laborers and mechanics employed by contractors or subcontractors in the performance of construction work financed in whole or in part with assistance under this section shall be paid wages at rates not less than those prevailing on similar construction in the locality as determined by the Secretary of Labor in accordance with the Davis-Bacon Act, as amended (40 U.S.C. 276a-276a-5). The Secretary of Labor shall have, with respect to such labor standards, the authority and functions set forth in Reorganization Plan Numbered 14 of 1950 (15 F.R. 3176; 64 Stat. 1267) and section 2 of the Act of June 13, 1934, as amended (48 Stat. 948; 40 U.S.C. 276(c)).

(y)(1) The Administrator is authorized in accordance with such rules and regulations as he shall prescribe after consultation with the Secretary of the Treasury, to guarantee and to make commitments to guarantee the payment of interest on, and the principal balance of, bonds, debentures, notes, and other obligations issued by or on behalf of any borrower for the purpose of (A) financing the construction and startup costs of demonstration facilities for the conversion of municipal or industrial waste, sewage sludge, or other municipal organic wastes into synthetic fuels, and (B) financing the construction and startup costs of demonstration facilities to generate desirable forms of energy (including synthetic fuels) from municipal or industrial waste, sewage sludge, or other municipal organic waste. With respect to a guarantee or a commitment to

guarantee authorized by this subsection; the following subsections of this section shall not apply: (b)(1), (b)(5), (c)(2), (c)(5), (c)(6), (c)(7), (c)(8), (c)(9), (e)(3), (j), (k), and (q).

(2) In the case where the Administrator seeks to guarantee or to make commitments to guarantee as provided by this subsection he is authorized to incur an outstanding indebtedness which at no time shall exceed \$300,000,000.

(3) The Administrator shall apply the following provisions thereto:

(A) With respect to any demonstration facility for the conversion of solid waste (as the term is defined in the Resource Conservation and Recovery Act (42 U.S.C. 6903)), the Administrator, prior to issuing any guarantee under this section, must be in receipt of a certification from the Administrator of the Environmental Protection Agency and any appropriate State or areawide solid waste management planning agency that the proposed application for a guarantee is consistent with any applicable suggested guidelines published pursuant to section 1008(a) of the Resource Conservation and Recovery Act, and any applicable State or regional solid waste management plan.

(B) The amount guaranteed shall not exceed 75 per centum of the total cost of the commercial demonstration facility, as determined by the Administrator: *Provided*, That the amount guaranteed may not exceed 90 per centum of the total cost of the commercial demonstration facility during the period of construction and startup.

(C) The maximum maturity of the obligation shall not exceed thirty years, or 90 per centum of the projected economic life of the physical assets of the commercial demonstration facility covered by the guarantee, whichever is less, as determined by the Administrator.

(D) The Administrator shall charge and collect fees for guarantees of obligations in amounts sufficient in the judgment of the Administrator to cover the applicable administrative costs and probable losses on guaranteed obligations, but in any event not to exceed 1 per centum per annum of the outstanding indebtedness covered by the guarantee.

(E) No part of the program authorized by this section shall be transferred to any other agency or authority, except pursuant to Act of Congress enacted after the date of enactment of this section: *Provided*, That project agreements entered into pursuant to this section for any commercial demonstration facility for the conversion of bioconversion of solid waste (as that term is defined in the Resource Conservation and Recovery Act) shall be administered in accordance with the May 7, 1976, Interagency Agreement between the Environmental Protection Agency and the Energy Research and Development Administration on the Development of Energy From Solid Wastes, and provided specifically that in accordance with this agreement (i) for those energy-related projects of mutual interest, planning will be conducted jointly by the Environmental Protection Agency and the Energy Research and Development Administration, following which project responsibility will be assigned to one agency; (ii) energy-related projects for recovery of synthetic fuels or other forms of energy from solid waste shall be

the responsibility of the Energy Research and Development Administration; and (iii) the Environmental Protection Agency shall retain responsibility for the environmental, economic, and institutional aspects of solid waste projects and for assurance that such projects are consistent with any applicable suggested guidelines pursuant to section 1008 of the Resource Conservation and Recovery Act of 1976 (42 U.S.C. 6901 et seq.), as amended, and any applicable State or regional solid waste management plan.

(F) With respect to any obligation which is issued after the enactment of this section by, or in behalf of, any State, political subdivision, or Indian tribe and which is either guaranteed under, or supported by taxes levied by said issuer which are guaranteed under, this section, the interest paid on such obligation and received by the purchaser thereof (or the purchaser's successor in interest) shall be included in gross income for the purpose of chapter 1 of the Internal Revenue Code of 1954, as amended: *Provided*, That the Administrator shall pay to such issuer out of the fund established by this section such portion of the interest on such obligations, as determined by the Secretary of the Treasury to be appropriated after taking into account current market yields (i) on obligations of said issuer, if any, and (ii) on other obligations with similar terms and conditions the interest on which is not so included in gross income for purposes of chapter 1 of such Code, and in accordance with, such terms and conditions as the Secretary of the Treasury shall require.

FINANCIAL SUPPORT PROGRAM FOR MUNICIPAL WASTE REPROCESSING
DEMONSTRATION FACILITIES

SEC. 20. [42 U.S.C. 5920] (a) It is the purpose of this section—

(1) to assure adequate Federal support to foster a program to demonstrate municipal waste reprocessing for the production of fuel and energy intensive products; and

(2) to gather information about the technological, economic, environmental, and social costs, benefits, and impacts of such demonstration facilities.

(b)(1) The Administrator is authorized and directed, to the extent provided in appropriation Acts, to establish such a demonstration program by making grants, contracts, price supports, and cooperative agreements pursuant to this Act or any combination thereof for the establishment of municipal waste reprocessing demonstration facilities. For the purpose of this section municipal waste shall include but not be limited to municipal solid waste, sewage sludge, and other municipal organic wastes.

(2) The aggregate amount of funds available for grants, contracts, price supports, and cooperative agreements for municipal waste reprocessing demonstration facilities shall not exceed \$20,000,000 in the fiscal year ending September 30, 1978.

(3) For purposes of this section the term "municipal" shall include any city, town, borough, county, parish, district, or other public body created by or pursuant to State law.

(4) Municipal waste reprocessing demonstration facilities established under this section shall be owned or operated (or both owned and operated) by the municipality and shall involve the recovery of

energy or energy intensive products. Such facilities may be established by any public or private entity, by contract or otherwise, as may be determined by the local government which will own or operate (or both own and operate) such facilities and to which financial support is provided. The Federal share for any such facility to which this section applies shall not exceed 75 per centum of the cost of such facility, and not more than \$40,000,000 in Federal funds under this section may be used for the construction of any one facility.

(5) The Administrator shall promulgate such regulations as he deems necessary, pursuant to section 7(a)(4) and section 7(c) (1) and (6) of this Act, for purposes of establishing a price support program for revenue producing products of municipal waste reprocessing demonstration facilities.

(c)(1) The Administrator shall consult with the Environmental Protection Agency to assure that the provisions of section 8004 of the Resource Conservation and Recovery Act of 1976 (Public Law 94-580) are applied in carrying out this section.

(2) Any energy-related research, development, or demonstration project for the conversion (including bioconversion) of municipal waste carried out by the Energy Research and Development Administration pursuant to this or any other Act shall be administered in accordance with the May 7, 1976, Interagency Agreement between the Environmental Protection Agency and the Energy Research and Development Administration on the development of energy from solid wastes; and specifically, in accordance with such Agreement (A) for those energy-related projects of mutual interest, planning will be conducted jointly by the Environmental Protection Agency and the Energy Research and Development Administration, following which project responsibility will be assigned to one agency; (B) energy-related aspects of projects for recovery of fuels or energy intensive products from municipal waste as defined in this section shall be the responsibility of the Energy Research and Development Administration including energy-related economic and institutional aspects; and (C) the Environmental Protection Agency shall retain responsibility for the environmental and other economic and institutional aspects of solid waste projects and for assurance that such projects are consistent with any applicable suggested guidelines published pursuant to section 1008 of the Resource Conservation and Recovery Act of 1976 (Public Law 94-580), and any applicable State or regional waste management plan.

(d)(1) The Administrator shall establish such guidelines as he deems necessary for purposes of obtaining pertinent information from municipalities receiving funding under this section. These guidelines shall include but not be limited to methods of assessment and evaluation of projects authorized under this section. Such assessments and evaluations shall be presented by the Administrator to the House Committee on Science, Space, and Technology and the Senate Committee on Energy and Natural Resources upon the request of either such committee.

(2) The Administrator shall annually submit a report to the Congress concerning the actions taken or not taken by the Administrator under this section during the preceding fiscal year, and including but not limited to (A) a discussion of the status of each demonstration facility and related facilities financed under this sec-

tion, including progress made in the development of such facilities, and the expected or actual production from each such facility including byproduct production therefrom, and the distribution of such products and byproducts, (B) a statement of the financial condition of each such demonstration facility, (C) data concerning the environmental, community, and health and safety impacts of each such facility and the actions taken or planned to prevent or mitigate such impacts, (D) the administrative and other costs incurred by the Administrator and other Federal agencies in carrying out this program, and (E) such other data as may be helpful in keeping Congress and the public fully and currently informed about the program authorized by this section.

(3) The annual reports required by this subsection shall be a part of the annual report required by section 15 of this Act, except that the matters required to be reported by this subsection shall be clearly set out and identified in such annual reports. Such reports shall be transmitted to the Speaker of the House of Representatives and the House Committee on Science, Space, and Technology and to the President of the Senate and the Senate Committee on Energy and Natural Resources.

(e) No part of the program authorized by this section shall be transferred to any other agency or authority, except pursuant to Act of Congress enacted after the date of the enactment of this section.

(f) Nothing in this section shall be construed as abrogating any obligations of any municipality receiving financial assistance pursuant to this section to comply with Federal and State environmental, land use, water, and health and safety laws and regulations or to obtain applicable Federal and State permits, licenses, and certificates.

AEROSPACE SAFETY ADVISORY PANEL¹

SEC. 6. There is hereby established an Aerospace Safety Advisory Panel consisting of a maximum of nine members who shall be appointed by the Administrator for terms of six years each. The Panel shall review safety studies and operations plans referred to it and shall make reports thereon, shall advise the Administrator with respect to the hazards of proposed or existing facilities and proposed operations and with respect to the adequacy of proposed or existing safety standards and shall perform such other duties as the Administrator may request. One member shall be designated by the Panel as its Chairman. Members of the Panel who are officers or employees of the Federal Government shall receive no compensation for their services as such, but shall be allowed necessary travel expenses (or in the alternative, mileage for use of privately owned vehicles and a per diem in lieu of subsistence not to exceed the rates prescribed in 5 U.S.C. 5702, 5704), and other necessary expenses incurred by them in the performance of duties vested in the Panel, without regard to the provisions of subchapter I, chapter 57 of title 5 of the United States Code, the Standardized Government Travel Regulations, or 5 U.S.C. 5731. Members of the Panel appointed from outside the Federal Government shall each receive compensation at the rate of \$100 for each day such member is engaged in the actual performance of duties vested in the Panel in addition to reimbursement for travel, subsistence, and other necessary expenses in accordance with the provisions of the foregoing sentence. Not more than four such members shall be chosen from among the officers and employees of the National Aeronautics and Space Administration.

¹This section was enacted as section 6 of the National Aeronautics and Space Administration Authorization Act, 1968 (Public Law 90-69).

BIOMEDICAL RESEARCH IN SPACE ¹

TITLE VI—BIOMEDICAL RESEARCH IN SPACE

SEC. 601. [42 U.S.C. 2487] FINDINGS.

The Congress finds that—

(1) the space program can make significant contributions to selected areas of health-related research and should be an integral part of the Nation's health research and development program;

(2) the continuing development of trained scientists and engineers is essential to carrying out an effective and sustained program of biomedical research in space and on the ground;

(3) the establishment and maintenance of an electronically accessible archive of data on space-related biomedical research is essential to advancement of the field;

(4) cooperation with the republics of the former Soviet Union, including use of former Soviet orbital facilities, offers the potential for greatly enhanced biomedical research activities and progress; and

(5) the establishment and maintenance of an international telemedicine consultation satellite capability to support emergency medical service provision can provide an important aid to disaster relief efforts.

SEC. 602. [42 U.S.C. 2487a] BIOMEDICAL RESEARCH JOINT WORKING GROUP.

(a) ESTABLISHMENT.—The Administrator and the Director of the National Institutes of Health shall jointly establish a working group to coordinate biomedical research activities in areas where a microgravity environment may contribute to significant progress in the understanding and treatment of diseases and other medical conditions. The joint working group shall formulate joint and complementary programs in such areas of research.

(b) MEMBERSHIP.—The joint working group shall include equal representation from the National Aeronautics and Space Administration and the National Institutes of Health, and shall include representation from National Institutes of Health councils, as selected by the Director of the National Institutes of Health, and from the National Aeronautics and Space Administration Advisory Council.

¹This title was enacted as title VI of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1993 (Public Law 102-588).

(c) ANNUAL REPORTING REQUIREMENT.—The joint working group shall report annually to Congress on its progress in carrying out this section.

(d) ANNUAL BIOMEDICAL RESEARCH SYMPOSIA.—The working group shall organize annual symposia on biomedical research described in subsection (a) under the joint sponsorship of the National Aeronautics and Space Administration and the National Institutes of Health.

SEC. 603. [42 U.S.C. 2487b] BIOMEDICAL RESEARCH GRANTS.

(a) ESTABLISHMENT OF PROGRAM.—The Administrator and the Director of the National Institutes of Health shall establish a joint program of biomedical research grants in areas described in section 602(a), where such research requires access to a microgravity environment. Such program shall be consistent with actions taken by the joint working group under section 602.

(b) RESEARCH OPPORTUNITY ANNOUNCEMENTS.—The grants program established under subsection (a) shall annually issue joint research opportunity announcements under the sponsorship of the National Institutes of Health and the National Aeronautics and Space Administration. Responses to the announcements shall be evaluated by a peer review committee whose members shall be selected by the Director of the National Institutes of Health and the Administrator, and shall include individuals not employed by the National Aeronautics and Space Administration or the National Institutes of Health.

SEC. 604. [42 U.S.C. 2487c] BIOMEDICAL RESEARCH FELLOWSHIPS.

The Administrator and the Director of the National Institutes of Health shall create a joint program of graduate research fellowships in biomedical research described in section 602(a). Fellowships under such program may provide for participation in approved research conferences and symposia.

[Section 605 repealed by section 1101(g) of Pub. L. 105–362, 112 Stat. 3292.]

SEC. 606. [42 U.S.C. 2487e] ESTABLISHMENT OF AN ELECTRONIC DATA ARCHIVE.

The Administrator shall create and maintain a national electronic data archive for biomedical research data obtained from space-based experiments.

SEC. 607. [42 U.S.C. 2487f] ESTABLISHMENT OF EMERGENCY MEDICAL SERVICE TELEMEDICINE CAPABILITY.

The Administrator shall with the Director of the Federal Emergency Management Agency, the Director of the Office of Foreign Disaster, and the Surgeon General of the United States jointly create and maintain an international telemedicine satellite consultation capability to support emergency medical services in disaster-stricken areas.

SEC. 608. [42 U.S.C. 2487g] AUTHORIZATION OF APPROPRIATIONS.

The Administrator should ensure that up to \$3,750,000 from the appropriations authorized for “Research and Development” for fiscal year 1993 are also used to carry out this title.

COMMERCIAL SPACE ACT OF 1998

(Public Law 105-303; 112 Stat. 2843)

AN ACT To encourage the development of a commercial space industry in the United States, and for other purposes.

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

SECTION 1. [42 U.S.C. 14701 note] SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the “Commercial Space Act of 1998”.

(b) TABLE OF CONTENTS.—

Sec. 1. Short title; table of contents.

Sec. 2. Definitions.

TITLE I—PROMOTION OF COMMERCIAL SPACE OPPORTUNITIES

Sec. 101. Commercialization of Space Station.

Sec. 102. Commercial space launch amendments.

Sec. 103. Launch voucher demonstration program.

Sec. 104. Promotion of United States Global Positioning System standards.

Sec. 105. Acquisition of space science data.

Sec. 106. Administration of Commercial Space Centers.

Sec. 107. Sources of Earth science data.

TITLE II—FEDERAL ACQUISITION OF SPACE TRANSPORTATION SERVICES

Sec. 201. Requirement to procure commercial space transportation services.

Sec. 202. Acquisition of commercial space transportation services.

Sec. 203. Launch Services Purchase Act of 1990 amendments.

Sec. 204. Shuttle privatization.

Sec. 205. Use of excess intercontinental ballistic missiles.

Sec. 206. National launch capability study.

SEC. 2. [42 U.S.C. 14701] DEFINITIONS.

For purposes of this Act—

(1) the term “Administrator” means the Administrator of the National Aeronautics and Space Administration;

(2) the term “commercial provider” means any person providing space transportation services or other space-related activities, primary control of which is held by persons other than Federal, State, local, and foreign governments;

(3) the term “payload” means anything that a person undertakes to transport to, from, or within outer space, or in sub-orbital trajectory, by means of a space transportation vehicle, but does not include the space transportation vehicle itself except for its components which are specifically designed or adapted for that payload;

(4) the term “space-related activities” includes research and development, manufacturing, processing, service, and other associated and support activities;

(5) the term “space transportation services” means the preparation of a space transportation vehicle and its payloads for transportation to, from, or within outer space, or in sub-orbital trajectory, and the conduct of transporting a payload to, from, or within outer space, or in suborbital trajectory;

(6) the term “space transportation vehicle” means any vehicle constructed for the purpose of operating in, or transporting a payload to, from, or within, outer space, or in sub-orbital trajectory, and includes any component of such vehicle not specifically designed or adapted for a payload;

(7) the term “State” means each of the several States of the Union, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any other commonwealth, territory, or possession of the United States; and

(8) the term “United States commercial provider” means a commercial provider, organized under the laws of the United States or of a State, which is—

(A) more than 50 percent owned by United States nationals; or

(B) a subsidiary of a foreign company and the Secretary of Transportation finds that—

(i) such subsidiary has in the past evidenced a substantial commitment to the United States market through—

(I) investments in the United States in long-term research, development, and manufacturing (including the manufacture of major components and subassemblies); and

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

(ii) the country or countries in which such foreign company is incorporated or organized, and, if appropriate, in which it principally conducts its business, affords reciprocal treatment to companies described in subparagraph (A) comparable to that afforded to such foreign company’s subsidiary in the United States, as evidenced by—

(I) providing comparable opportunities for companies described in subparagraph (A) to participate in Government sponsored research and development similar to that authorized under this Act;

(II) providing no barriers, to companies described in subparagraph (A) with respect to local investment opportunities, that are not provided to foreign companies in the United States; and

(III) providing adequate and effective protection for the intellectual property rights of companies described in subparagraph (A).

TITLE I—PROMOTION OF COMMERCIAL SPACE OPPORTUNITIES

SEC. 101. [42 U.S.C. 14711] COMMERCIALIZATION OF SPACE STATION.

(a) **POLICY.**—The Congress declares that a priority goal of constructing the International Space Station is the economic development of Earth orbital space. The Congress further declares that free and competitive markets create the most efficient conditions for promoting economic development, and should therefore govern the economic development of Earth orbital space. The Congress further declares that the use of free market principles in operating, servicing, allocating the use of, and adding capabilities to the Space Station, and the resulting fullest possible engagement of commercial providers and participation of commercial users, will reduce Space Station operational costs for all partners and the Federal Government's share of the United States burden to fund operations.

(b) **REPORTS.**—(1) The Administrator shall deliver to the Committee on Science of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate, within 90 days after the date of the enactment of this Act, a study that identifies and examines—

(A) the opportunities for commercial providers to play a role in International Space Station activities, including operation, use, servicing, and augmentation;

(B) the potential cost savings to be derived from commercial providers playing a role in each of these activities;

(C) which of the opportunities described in subparagraph (A) the Administrator plans to make available to commercial providers in fiscal years 1999 and 2000;

(D) the specific policies and initiatives the Administrator is advancing to encourage and facilitate these commercial opportunities; and

(E) the revenues and cost reimbursements to the Federal Government from commercial users of the Space Station.

(2) The Administrator shall deliver to the Committee on Science of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate, within 180 days after the date of the enactment of this Act, an independently conducted market study that examines and evaluates potential industry interest in providing commercial goods and services for the operation, servicing, and augmentation of the International Space Station, and in the commercial use of the International Space Station. This study shall also include updates to the cost savings and revenue estimates made in the study described in paragraph (1) based on the external market assessment.

(3) The Administrator shall deliver to the Congress, no later than the submission of the President's annual budget request for fiscal year 2000, a report detailing how many proposals (whether solicited or not) the National Aeronautics and Space Administration received during calendar years 1997 and 1998 regarding commercial operation, servicing, utilization, or augmentation of the International Space Station, broken down by each of these four categories, and specifying how many agreements the National Aero-

navics and Space Administration has entered into in response to these proposals, also broken down by these four categories.

(4) Each of the studies and reports required by paragraphs (1), (2), and (3) shall include consideration of the potential role of State governments as brokers in promoting commercial participation in the International Space Station program.

SEC. 102. COMMERCIAL SPACE LAUNCH AMENDMENTS.¹

SEC. 103. LAUNCH VOUCHER DEMONSTRATION PROGRAM.

Section 504 of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1993 (15 U.S.C. 5803) is amended—

(1) in subsection (a)—

(A) by striking “the Office of Commercial Programs within”; and

(B) by striking “Such program shall not be effective after September 30, 1995.”;

(2) by striking subsection (c); and

(3) by redesignating subsections (d) and (e) as subsections (c) and (d), respectively.

SEC. 104. [42 U.S.C. 14712] PROMOTION OF UNITED STATES GLOBAL POSITIONING SYSTEM STANDARDS.

(a) **FINDING.**—The Congress finds that the Global Positioning System, including satellites, signal equipment, ground stations, data links, and associated command and control facilities, has become an essential element in civil, scientific, and military space development because of the emergence of a United States commercial industry which provides Global Positioning System equipment and related services.

(b) **INTERNATIONAL COOPERATION.**—In order to support and sustain the Global Positioning System in a manner that will most effectively contribute to the national security, public safety, scientific, and economic interests of the United States, the Congress encourages the President to—

(1) ensure the operation of the Global Positioning System on a continuous worldwide basis free of direct user fees;

(2) enter into international agreements that promote cooperation with foreign governments and international organizations to—

(A) establish the Global Positioning System and its augmentations as an acceptable international standard; and

(B) eliminate any foreign barriers to applications of the Global Positioning System worldwide; and

(3) provide clear direction and adequate resources to the Assistant Secretary of Commerce for Communications and Information so that on an international basis the Assistant Secretary can—

(A) achieve and sustain efficient management of the electromagnetic spectrum used by the Global Positioning System; and

(B) protect that spectrum from disruption and interference.

¹This section amends chapter 701 of title 49, which appears elsewhere in this compilation.

SEC. 105. [42 U.S.C. 14713] ACQUISITION OF SPACE SCIENCE DATA.

(a) **ACQUISITION FROM COMMERCIAL PROVIDERS.**—The Administrator shall, to the extent possible and while satisfying the scientific or educational requirements of the National Aeronautics and Space Administration, and where appropriate, of other Federal agencies and scientific researchers, acquire, where cost effective, space science data from a commercial provider.

(b) **TREATMENT OF SPACE SCIENCE DATA AS COMMERCIAL ITEM UNDER ACQUISITION LAWS.**—Acquisitions of space science data by the Administrator shall be carried out in accordance with applicable acquisition laws and regulations (including chapters 137 and 140 of title 10, United States Code). For purposes of such law and regulations, space science data shall be considered to be a commercial item. Nothing in this subsection shall be construed to preclude the United States from acquiring, through contracts with commercial providers, sufficient rights in data to meet the needs of the scientific and educational community or the needs of other government activities.

(c) **DEFINITION.**—For purposes of this section, the term “space science data” includes scientific data concerning—

- (1) the elemental and mineralogical resources of the moon, asteroids, planets and their moons, and comets;
- (2) microgravity acceleration; and
- (3) solar storm monitoring.

(d) **SAFETY STANDARDS.**—Nothing in this section shall be construed to prohibit the Federal Government from requiring compliance with applicable safety standards.

(e) **LIMITATION.**—This section does not authorize the National Aeronautics and Space Administration to provide financial assistance for the development of commercial systems for the collection of space science data.

SEC. 106. [42 U.S.C. 14714] ADMINISTRATION OF COMMERCIAL SPACE CENTERS.

The Administrator shall administer the Commercial Space Center program in a coordinated manner from National Aeronautics and Space Administration headquarters in Washington, D.C.

SEC. 107. [42 U.S.C. 14715] SOURCES OF EARTH SCIENCE DATA.

(a) **ACQUISITION.**—The Administrator shall, to the extent possible and while satisfying the scientific or educational requirements of the National Aeronautics and Space Administration, and where appropriate, of other Federal agencies and scientific researchers, acquire, where cost-effective, space-based and airborne Earth remote sensing data, services, distribution, and applications from a commercial provider.

(b) **TREATMENT AS COMMERCIAL ITEM UNDER ACQUISITION LAWS.**—Acquisitions by the Administrator of the data, services, distribution, and applications referred to in subsection (a) shall be carried out in accordance with applicable acquisition laws and regulations (including chapters 137 and 140 of title 10, United States Code). For purposes of such law and regulations, such data, services, distribution, and applications shall be considered to be a commercial item. Nothing in this subsection shall be construed to preclude the United States from acquiring, through contracts with

commercial providers, sufficient rights in data to meet the needs of the scientific and educational community or the needs of other government activities.

(c) **STUDY.**—(1) The Administrator shall conduct a study to determine the extent to which the baseline scientific requirements of Earth Science can be met by commercial providers, and how the National Aeronautics and Space Administration will meet such requirements which cannot be met by commercial providers.

(2) The study conducted under this subsection shall—

(A) make recommendations to promote the availability of information from the National Aeronautics and Space Administration to commercial providers to enable commercial providers to better meet the baseline scientific requirements of Earth Science;

(B) make recommendations to promote the dissemination to commercial providers of information on advanced technology research and development performed by or for the National Aeronautics and Space Administration; and

(C) identify policy, regulatory, and legislative barriers to the implementation of the recommendations made under this subsection.

(3) The results of the study conducted under this subsection shall be transmitted to the Congress within 6 months after the date of the enactment of this Act.

(d) **SAFETY STANDARDS.**—Nothing in this section shall be construed to prohibit the Federal Government from requiring compliance with applicable safety standards.

(e) **ADMINISTRATION AND EXECUTION.**—This section shall be carried out as part of the Commercial Remote Sensing Program at the Stennis Space Center.

(f) **REMOTE SENSING.**—

(1) **APPLICATION CONTENTS.**—Section 201(b) of the Land Remote Sensing Policy Act of 1992 (15 U.S.C. 5621(b)) is amended—

(A) by inserting “(1)” after “NATIONAL SECURITY.—”; and

(B) by adding at the end the following new paragraph:

“(2) The Secretary, within 6 months after the date of the enactment of the Commercial Space Act of 1998, shall publish in the Federal Register a complete and specific list of all information required to comprise a complete application for a license under this title. An application shall be considered complete when the applicant has provided all information required by the list most recently published in the Federal Register before the date the application was first submitted. Unless the Secretary has, within 30 days after receipt of an application, notified the applicant of information necessary to complete an application, the Secretary may not deny the application on the basis of the absence of any such information.”.

(2) **NOTIFICATION OF AGREEMENTS.**—Section 202(b)(6) of the Land Remote Sensing Policy Act of 1992 (15 U.S.C. 5622(b)(6)) is amended by inserting “significant or substantial” after “Secretary of any”.

TITLE II—FEDERAL ACQUISITION OF SPACE TRANSPORTATION SERVICES

SEC. 201. [42 U.S.C. 14731] REQUIREMENT TO PROCURE COMMERCIAL SPACE TRANSPORTATION SERVICES.

(a) **IN GENERAL.**—Except as otherwise provided in this section, the Federal Government shall acquire space transportation services from United States commercial providers whenever such services are required in the course of its activities. To the maximum extent practicable, the Federal Government shall plan missions to accommodate the space transportation services capabilities of United States commercial providers.

(b) **EXCEPTIONS.**—The Federal Government shall not be required to acquire space transportation services under subsection (a) if, on a case-by-case basis, the Administrator or, in the case of a national security issue, the Secretary of the Air Force, determines that—

(1) a payload requires the unique capabilities of the Space Shuttle;

(2) cost effective space transportation services that meet specific mission requirements would not be reasonably available from United States commercial providers when required;

(3) the use of space transportation services from United States commercial providers poses an unacceptable risk of loss of a unique scientific opportunity;

(4) the use of space transportation services from United States commercial providers is inconsistent with national security objectives;

(5) the use of space transportation services from United States commercial providers is inconsistent with international agreements for international collaborative efforts relating to science and technology;

(6) it is more cost effective to transport a payload in conjunction with a test or demonstration of a space transportation vehicle owned by the Federal Government; or

(7) a payload can make use of the available cargo space on a Space Shuttle mission as a secondary payload, and such payload is consistent with the requirements of research, development, demonstration, scientific, commercial, and educational programs authorized by the Administrator.

Nothing in this section shall prevent the Administrator from planning or negotiating agreements with foreign entities for the launch of Federal Government payloads for international collaborative efforts relating to science and technology.

(c) **DELAYED EFFECT.**—Subsection (a) shall not apply to space transportation services and space transportation vehicles acquired or owned by the Federal Government before the date of the enactment of this Act, or with respect to which a contract for such acquisition or ownership has been entered into before such date.

(d) **HISTORICAL PURPOSES.**—This section shall not be construed to prohibit the Federal Government from acquiring, owning, or maintaining space transportation vehicles solely for historical display purposes.

SEC. 202. [42 U.S.C. 14732] ACQUISITION OF COMMERCIAL SPACE TRANSPORTATION SERVICES.

(a) **TREATMENT OF COMMERCIAL SPACE TRANSPORTATION SERVICES AS COMMERCIAL ITEM UNDER ACQUISITION LAWS.**—Acquisitions of space transportation services by the Federal Government shall be carried out in accordance with applicable acquisition laws and regulations (including chapters 137 and 140 of title 10, United States Code). For purposes of such law and regulations, space transportation services shall be considered to be a commercial item.

(b) **SAFETY STANDARDS.**—Nothing in this section shall be construed to prohibit the Federal Government from requiring compliance with applicable safety standards.

SEC. 203. LAUNCH SERVICES PURCHASE ACT OF 1990 AMENDMENTS.¹**SEC. 204. [42 U.S.C. 14733] SHUTTLE PRIVATIZATION.**

(a) **POLICY AND PREPARATION.**—The Administrator shall prepare for an orderly transition from the Federal operation, or Federal management of contracted operation, of space transportation systems to the Federal purchase of commercial space transportation services for all nonemergency space transportation requirements for transportation to and from Earth orbit, including human, cargo, and mixed payloads. In those preparations, the Administrator shall take into account the need for short-term economies, as well as the goal of restoring the National Aeronautics and Space Administration's research focus and its mandate to promote the fullest possible commercial use of space. As part of those preparations, the Administrator shall plan for the potential privatization of the Space Shuttle program. Such plan shall keep safety and cost effectiveness as high priorities. Nothing in this section shall prohibit the National Aeronautics and Space Administration from studying, designing, developing, or funding upgrades or modifications essential to the safe and economical operation of the Space Shuttle fleet.

(b) **FEASIBILITY STUDY.**—The Administrator shall conduct a study of the feasibility of implementing the recommendation of the Independent Shuttle Management Review Team that the National Aeronautics and Space Administration transition toward the privatization of the Space Shuttle. The study shall identify, discuss, and, where possible, present options for resolving, the major policy and legal issues that must be addressed before the Space Shuttle is privatized, including—

(1) whether the Federal Government or the Space Shuttle contractor should own the Space Shuttle orbiters and ground facilities;

(2) whether the Federal Government should indemnify the contractor for any third party liability arising from Space Shuttle operations, and, if so, under what terms and conditions;

(3) whether payloads other than National Aeronautics and Space Administration payloads should be allowed to be launched on the Space Shuttle, how missions will be prioritized, and who will decide which mission flies and when;

¹This section amends the Launch Services Purchase Act of 1990, which appears elsewhere in this compilation.

(4) whether commercial payloads should be allowed to be launched on the Space Shuttle and whether any classes of payloads should be made ineligible for launch consideration;

(5) whether National Aeronautics and Space Administration and other Federal Government payloads should have priority over non-Federal payloads in the Space Shuttle launch assignments, and what policies should be developed to prioritize among payloads generally;

(6) whether the public interest requires that certain Space Shuttle functions continue to be performed by the Federal Government; and

(7) how much cost savings, if any, will be generated by privatization of the Space Shuttle.

(c) **REPORT TO CONGRESS.**—Within 60 days after the date of the enactment of this Act, the National Aeronautics and Space Administration shall complete the study required under subsection (b) and shall submit a report on the study to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science of the House of Representatives.

SEC. 205. [42 U.S.C. 14734] USE OF EXCESS INTERCONTINENTAL BALLISTIC MISSILES.

(a) **IN GENERAL.**—The Federal Government shall not—

(1) convert any missile described in subsection (c) to a space transportation vehicle configuration; or

(2) transfer ownership of any such missile to another person, except as provided in subsection (b).

(b) **AUTHORIZED FEDERAL USES.**—(1) A missile described in subsection (c) may be converted for use as a space transportation vehicle by the Federal Government if, except as provided in paragraph (2) and at least 30 days before such conversion, the agency seeking to use the missile as a space transportation vehicle transmits to the Committee on Armed Services and the Committee on Science of the House of Representatives, and to the Committee on Armed Services and the Committee on Commerce, Science, and Transportation of the Senate, a certification that the use of such missile—

(A) would result in cost savings to the Federal Government when compared to the cost of acquiring space transportation services from United States commercial providers;

(B) meets all mission requirements of the agency, including performance, schedule, and risk requirements;

(C) is consistent with international obligations of the United States; and

(D) is approved by the Secretary of Defense or his designee.

(2) The requirement under paragraph (1) that the certification described in that paragraph must be transmitted at least 30 days before conversion of the missile shall not apply if the Secretary of Defense determines that compliance with that requirement would be inconsistent with meeting immediate national security requirements.

(c) **MISSILES REFERRED TO.**— The missiles referred to in this section are missiles owned by the United States that—

- (1) were formerly used by the Department of Defense for national defense purposes as intercontinental ballistic missiles; and
- (2) have been declared excess to United States national defense needs and are in compliance with international obligations of the United States.

SEC. 206. [42 U.S.C. 14735] NATIONAL LAUNCH CAPABILITY STUDY.

(a) **FINDINGS.**—Congress finds that a robust satellite and launch industry in the United States serves the interest of the United States by—

- (1) contributing to the economy of the United States;
- (2) strengthening employment, technological, and scientific interests of the United States; and
- (3) serving the foreign policy and national security interests of the United States.

(b) **DEFINITIONS.**—In this section:

(1) **SECRETARY.**—The term “Secretary” means the Secretary of Defense.

(2) **TOTAL POTENTIAL NATIONAL MISSION MODEL.**—The term “total potential national mission model” means a model that—

(A) is determined by the Secretary, in consultation with the Administrator, to assess the total potential space missions to be conducted in the United States during a specified period of time; and

(B) includes all launches in the United States (including launches conducted on or off a Federal range).

(c) **REPORT.**—

(1) **IN GENERAL.**—Not later than 180 days after the date of enactment of this Act, the Secretary shall, in consultation with the Administrator and appropriate representatives of the satellite and launch industry and the governments of States and political subdivisions thereof—

(A) prepare a report that meets the requirements of this subsection; and

(B) submit that report to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science of the House of Representatives.

(2) **REQUIREMENTS FOR REPORT.**—The report prepared under this subsection shall—

(A) identify the total potential national mission model for the period beginning on the date of the report and ending on December 31, 2007;

(B) identify the resources that are necessary or available to carry out the total potential national mission model described in subparagraph (A), including—

(i) launch property and services of the Department of Defense, the National Aeronautics and Space Administration, and non-Federal facilities; and

(ii) the ability to support commercial launch-on-demand on short notification, taking into account Federal requirements, at launch sites or test ranges in the United States;

(C) identify each deficiency in the resources referred to in subparagraph (B); and

(D) with respect to the deficiencies identified under subparagraph (C), include estimates of the level of funding necessary to address those deficiencies for the period described in subparagraph (A).

(d) RECOMMENDATIONS.—Based on the reports under subsection (c), the Secretary, after consultation with the Secretary of Transportation, the Secretary of Commerce, and representatives from interested private sector entities, States, and local governments, shall—

(1) identify opportunities for investment by non-Federal entities (including States and political subdivisions thereof and private sector entities) to assist the Federal Government in providing launch capabilities for the commercial space industry in the United States;

(2) identify one or more methods by which, if sufficient resources referred to in subsection (c)(2)(D) are not available to the Department of Defense and the National Aeronautics and Space Administration, the control of the launch property and launch services of the Department of Defense and the National Aeronautics and Space Administration may be transferred from the Department of Defense and the National Aeronautics and Space Administration to—

(A) one or more other Federal agencies;

(B) one or more States (or subdivisions thereof);

(C) one or more private sector entities; or

(D) any combination of the entities described in subparagraphs (A) through (C); and

(3) identify the technical, structural, and legal impediments associated with making launch sites or test ranges in the United States viable and competitive.

COMMERCIAL SPACE COMPETITIVENESS¹

TITLE V—COMMERCIAL SPACE COMPETITIVENESS

SEC. 501. [15 U.S.C. 5801] FINDINGS.

The Congress finds that—

(1) commercial activities of the private sector have substantially contributed to the strength of both the United States space program and the national economy;

(2) a robust United States space transportation capability remains a vital cornerstone of the United States space program;

(3) the availability of commercial launch services is essential for the continued growth of the United States commercial space sector;

(4) a timely extension of the excess third party claims payment provisions of the Commercial Space Launch Act is appropriate and necessary to enable the private sector to continue covering maximum probable liability risks while protecting the private sector from uninsurable levels of liability which could hinder international competitiveness;

(5) a program to demonstrate how recipients of Federal grants can purchase launch services directly from the private sector has the potential to improve the capabilities of the United States commercial launch industry;

(6) improvements and additions to the Nation's space transportation infrastructure contribute to a robust and cost effective space transportation capability for both public sector and private sector users;

(7) private sector use of available Government facilities on a reimbursable basis contributes to a stronger commercial space sector;

(8) the Federal Government should purchase space goods and services which are commercially available, or could be made available commercially in response to a Government procurement request, whenever such goods or services meet Government mission requirements in a cost effective manner;

(9) it is appropriate for the Government to act as an anchor tenant for commercial space development projects which have a reasonable potential to develop non-Federal markets and which meet Federal needs in a cost effective manner; and

¹This title was enacted as title V of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1993 (Public Law 102-588).

(10) the provision of compensation to commercial providers of space goods and services for termination of contracts at the convenience of the Government assists in enabling the private sector to invest in space activities which are initially dependent on Government purchases.

SEC. 502. [15 U.S.C. 5802] DEFINITIONS.

For the purpose of this title—

(1) the term “agency” means an executive agency as defined by section 105 of title 5, United States Code;

(2) the term “anchor tenancy” means an arrangement in which the United States Government agrees to procure sufficient quantities of a commercial space product or service needed to meet Government mission requirements so that a commercial venture is made viable;

(3) the term “commercial” means having—

(A) private capital at risk, and

(B) primary financial and management responsibility for the activity reside with the private sector;

(4) the term “cost effective” means costing no more than the available alternatives, determined by a comparison of all related direct and indirect costs including, in the case of Government costs, applicable Government labor and overhead costs as well as contractor charges, and taking into account the ability of each alternative to accommodate mission requirements as well as the related factors of risk, reliability, schedule, and technical performance;

(5) the term “launch” means to place, or attempt to place, a launch vehicle and its payload, if any, in a suborbital trajectory, in Earth orbit in outer space, or otherwise in outer space;

(6) the term “launch services” means activities involved in the preparation of a launch vehicle and its payload for launch and the conduct of a launch;

(7) the term “launch support facilities” means facilities located at launch sites or launch ranges that are required to support launch activities, including launch vehicle assembly, launch vehicle operations and control, communications, flight safety functions, and payload operations, control, and processing.

(8) the term “launch vehicle” means any vehicle constructed for the purpose of operating in or placing a payload in, outer space or in suborbital trajectories, and includes components of that vehicle;

(9) the term “payload” means an object which a person undertakes to launch, and includes subcomponents of the launch vehicle specifically designed or adapted for that object;

(10) the term “payload integration services” means activities involved in integrating multiple payloads into a single payload for launch or integrating a payload with a launch vehicle;

(11) the term “space recovery support facilities” means facilities required to support activities related to the recovery of payloads returned from space to a space recovery site, including operations and control, communications, flight safety functions, and payload processing;

(12) the term "space transportation infrastructure" means facilities, associated equipment, and real property, including launch sites, launch support facilities, space recovery sites, and space recovery support facilities, required to perform launch or space recovery activities;

(13) the term "State" means the several States, the District of Columbia, Puerto Rico, American Samoa, the United States Virgin Islands, Guam, the Northern Mariana Islands, and any other commonwealth, territory, or possession of the United States; and

(14) the term "United States" means the States, collectively.

[SEC. 503. Repealed.]

SEC. 504. [15 U.S.C. 5803] LAUNCH VOUCHER DEMONSTRATION PROGRAM.

(a) **COMMERCIAL SPACE VOUCHER DEMONSTRATION PROGRAM; EFFECTIVE PERIOD.**—The Administrator shall establish a demonstration program to award vouchers for the payment of commercial launch services and payload integration services for the purpose of launching payloads funded by the National Aeronautics and Space Administration to become effective October 1, 1993.

(b) **AWARD OF VOUCHERS.**—The Administrator shall award vouchers under subsection (a) to appropriate individuals as a part of grants administered by the National Aeronautics and Space Administration for the launch of—

(1) payloads to be placed in suborbital trajectories; and

(2) small payloads to be placed in orbit.

(c) **ASSISTANCE.**—The Administrator may provide voucher award recipients with such assistance, including contract formulation and technical support during the proposal evaluation, as may be necessary, to ensure the purchase of cost effective and reasonably reliable commercial launch services and payload integration services.

(d) **REPORT.**—The Administrator shall conduct an ongoing review of the program established under this section, and shall, not later than January 31, 1995, report to Congress the results of such a review, together with recommendations for further action relating to the program.

[SEC. 505. Repealed.]

SEC. 506. [15 U.S.C. 5805] IDENTIFICATION OF LAUNCH SUPPORT FACILITIES.

(a) **IDENTIFICATION.**—The Administrator and the Secretary of Defense, as appropriate, in coordination with the Secretary of Transportation, shall conduct an inventory and identify all launch support facilities owned by the United States Government. To the extent practicable, the Administrator and the Secretary of Defense shall also identify any launch support facilities which could be made available for use by non-Federal entities on a reimbursable basis without interfering with Federal activities.

(b) **REPORT TO CONGRESS.**—Not later than 1 year after the date of enactment of this Act, the Administrator and the Secretary of Defense each shall submit to Congress a report containing the results of the identification required under subsection (a). Portions of

such report may be classified and protected from public disclosure if such classification is necessary to protect national security.

SEC. 507. [15 U.S.C. 5806] ANCHOR TENANCY AND TERMINATION LIABILITY.

(a) **ANCHOR TENANCY CONTRACTS.**—Subject to appropriations, the Administrator or the Administrator of the National Oceanic and Atmospheric Administration may enter into multiyear anchor tenancy contracts for the purchase of a good or service if the appropriate Administrator determines that—

(1) the good or service meets the mission requirements of the National Aeronautics and Space Administration or the National Oceanic and Atmospheric Administration, as appropriate;

(2) the commercially procured good or service is cost effective;

(3) the good or service is procured through a competitive process;

(4) existing or potential customers for the good or service other than the United States Government have been specifically identified;

(5) the long-term viability of the venture is not dependent upon a continued Government market or other nonreimbursable Government support; and

(6) private capital is at risk in the venture.

(b) **TERMINATION LIABILITY.**—(1) Contracts entered into under subsection (a) may provide for the payment of termination liability in the event that the Government terminates such contracts for its convenience.

(2) Contracts that provide for the payment of termination liability, as described in paragraph (1), shall include a fixed schedule of such termination liability payments. Liability under such contracts shall not exceed the total payments which the Government would have made after the date of termination to purchase the good or service if the contract were not terminated.

(3) Subject to appropriations, funds available for such termination liability payments may be used for purchase of the good or service upon successful delivery of the good or service pursuant to the contract. In such case, sufficient funds shall remain available to cover any remaining termination liability.

(c) **LIMITATIONS.**—(1) Contracts entered into under this section shall not exceed 10 years in duration.

(2) Such contracts shall provide for delivery of the good or service on a firm, fixed price basis.

(3) To the extent practicable, reasonable performance specifications shall be used to define technical requirements in such contracts.

(4) In any such contract, the appropriate Administrator shall reserve the right to completely or partially terminate the contract without payment of such termination liability because of the contractor's actual or anticipated failure to perform its contractual obligations.

SEC. 508. [15 U.S.C. 5807] USE OF GOVERNMENT FACILITIES.

(a) **AUTHORITY.**—Federal agencies, including the National Aeronautics and Space Administration and the Department of Defense,

may allow non-Federal entities to use their space-related facilities on a reimbursable basis if the Administrator, the Secretary of Defense, or the appropriate agency head determines that—

- (1) the facilities will be used to support commercial space activities;
- (2) such use can be supported by existing or planned Federal resources;
- (3) such use is compatible with Federal activities;
- (4) equivalent commercial services are not available on reasonable terms; and
- (5) such use is consistent with public safety, national security, and international treaty obligations.

In carrying out paragraph (5), each agency head shall consult with appropriate Federal officials.

(b) REIMBURSEMENT PAYMENT.—(1) The reimbursement referred to in subsection (a) may be an amount equal to the direct costs (including salaries of United States civilian and contractor personnel) incurred by the United States as a result of the use of such facilities by the private sector. For the purposes of this paragraph, the term “direct costs” means the actual costs that can be unambiguously associated with such use, and would not be borne by the United States Government in the absence of such use.

(2) The amount of any payment received by the United States for use of facilities under this subsection shall be credited to the appropriation from which the cost of providing such facilities was paid.

SEC. 509. PROTECTION OF INFORMATION DEVELOPED UNDER SPACE ACT AGREEMENTS.

[Amended section 303 of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2454).]

SEC. 510. [15 U.S.C. 5808] COMMERCIAL SPACE ACHIEVEMENT AWARD.

(a) ESTABLISHMENT.—There is established a Commercial Space Achievement Award. The award shall consist of a medal, which shall be of such design and materials and bear such inscriptions as determined by the Secretary of Commerce. A cash prize may also be awarded if funding for the prize is available under subsection (d).

(b) CRITERIA FOR AWARD.—The Secretary of Commerce shall periodically make, and the Chairman of the National Space Council shall present, awards under this section to individuals, corporations, corporate divisions, or corporate subsidiaries substantially engaged in commercial space activities who in the opinion of the Secretary of Commerce best meet the following criteria:

(1) For corporate entities, at least one-half of the revenues from the space-related activities of the corporation, division, or subsidiary is derived from sources other than the United States Government.

(2) The activities and achievements of the individual, corporation, division, or subsidiary have substantially contributed to the United States gross national product and the stature of United States industry in international markets, with due consideration for both the economic magnitude and the technical quality of the activities and achievements.

(3) The individual, corporation, division, or subsidiary has substantially advanced space technology and space applications directly related to commercial space activities.

(c) LIMITATIONS.—No individual or corporate entity may receive an award under this section more than once every 5 years.

(d) FUNDING FOR AWARD.—The Secretary of Commerce may seek and accept gifts of money from public and private sources for the purpose of making cash prize awards under this section. Such money may be used only for that purpose, only such money may be used for that purpose, and the Secretary of Commerce shall make publicly available an itemized list of the sources of such funding.

COMMERCIAL SPACE LAUNCH ACTIVITIES

(CHAPTER 701 OF TITLE 49, UNITED STATES CODE)

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SUBTITLE IX—COMMERCIAL SPACE TRANSPORTATION

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CHAPTER 701—COMMERCIAL SPACE LAUNCH ACTIVITIES

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§ 70101. Findings and purposes

(a) FINDINGS.—Congress finds that—

(1) the peaceful uses of outer space continue to be of great value and to offer benefits to all mankind;

(2) private applications of space technology have achieved a significant level of commercial and economic activity and offer the potential for growth in the future, particularly in the United States;

(3) new and innovative equipment and services are being sought, produced, and offered by entrepreneurs in tele-communications, information services, microgravity research, and remote sensing technologies;

(4) the private sector in the United States has the capability of developing and providing private satellite launching, reentry, and associated services that would complement the launching, reentry, and associated services now available from the United States Government;

(5) the development of commercial launch vehicles, reentry vehicles, and associated services would enable the United States to retain its competitive position internationally, contributing to the national interest and economic well-being of the United States;

(6) providing launch services and reentry services by the private sector is consistent with the national security and foreign policy interests of the United States and would be facilitated by stable, minimal, and appropriate regulatory guidelines that are fairly and expeditiously applied;

(7) the United States should encourage private sector launches, reentries, and associated services and, only to the extent necessary, regulate those launches, reentries, and services to ensure compliance with international obligations of the United States and to protect the public health and safety, safety of property, and national security and foreign policy interests of the United States;

(8) space transportation, including the establishment and operation of launch sites, reentry sites, and complementary facilities, the providing of launch services and reentry services, the establishment of support facilities, and the providing of support services, is an important element of the transportation system of the United States, and in connection with the commerce of the United States there is a need to develop a strong space transportation infrastructure with significant private sector involvement; and

(9) the participation of State governments in encouraging and facilitating private sector involvement in space-related activity, particularly through the establishment of a space transportation-related infrastructure, including launch sites, reentry sites, complementary facilities, and launch site and reentry site support facilities, is in the national interest and is of significant public benefit.

(b) PURPOSES.—The purposes of this chapter are—

(1) to promote economic growth and entrepreneurial activity through use of the space environment for peaceful purposes;

(2) to encourage the United States private sector to provide launch vehicles, reentry vehicles, and associated services by—

(A) simplifying and expediting the issuance and transfer of commercial licenses; and

(B) facilitating and encouraging the use of Government-developed space technology;

(3) to provide that the Secretary of Transportation is to oversee and coordinate the conduct of commercial launch and reentry operations, issue and transfer commercial licenses authorizing those operations, and protect the public health and

safety, safety of property, and national security and foreign policy interests of the United States; and

(4) to facilitate the strengthening and expansion of the United States space transportation infrastructure, including the enhancement of United States launch sites and launch-site support facilities, and development of reentry sites, with Government, State, and private sector involvement, to support the full range of United States space-related activities.

§ 70102. Definitions

In this chapter—

(1) “citizen of the United States” means—

(A) an individual who is a citizen of the United States;

(B) an entity organized or existing under the laws of the United States or a State; or

(C) an entity organized or existing under the laws of a foreign country if the controlling interest (as defined by the Secretary of Transportation) is held by an individual or entity described in subclause (A) or (B) of this clause.

(2) “executive agency” has the same meaning given that term in section 105 of title 5.

(3) “launch” means to place or try to place a launch vehicle or reentry vehicle and any payload from Earth—

(A) in a suborbital trajectory;

(B) in Earth orbit in outer space; or

(C) otherwise in outer space,

including activities involved in the preparation of a launch vehicle or payload for launch, when those activities take place at a launch site in the United States.

(4) “launch property” means an item built for, or used in, the launch preparation or launch of a launch vehicle.

(5) “launch services” means—

(A) activities involved in the preparation of a launch vehicle and payload for launch; and

(B) the conduct of a launch.

(6) “launch site” means the location on Earth from which a launch takes place (as defined in a license the Secretary issues or transfers under this chapter) and necessary facilities at that location.

(7) “launch vehicle” means—

(A) a vehicle built to operate in, or place a payload in, outer space; and

(B) a suborbital rocket.

(8) “obtrusive space advertising” means advertising in outer space that is capable of being recognized by a human being on the surface of the Earth without the aid of a telescope or other technological device.

(9) “payload” means an object that a person undertakes to place in outer space by means of a launch vehicle or reentry vehicle, including components of the vehicle specifically designed or adapted for that object.

(10) “person” means an individual and an entity organized or existing under the laws of a State or country.

(11) "reenter" and "reentry" mean to return or attempt to return, purposefully, a reentry vehicle and its payload, if any, from Earth orbit or from outer space to Earth.

(12) "reentry services" means—

(A) activities involved in the preparation of a reentry vehicle and its payload, if any, for reentry; and

(B) the conduct of a reentry.

(13) "reentry site" means the location on Earth to which a reentry vehicle is intended to return (as defined in a license the Secretary issues or transfers under this chapter).

(14) "reentry vehicle" means a vehicle designed to return from Earth orbit or outer space to Earth, or a reusable launch vehicle designed to return from Earth orbit or outer space to Earth, substantially intact.

(15) "State" means a State of the United States, the District of Columbia, and a territory or possession of the United States.

(16) "third party" means a person except—

(A) the United States Government or the Government's contractors or subcontractors involved in launch services or reentry services;

(B) a licensee or transferee under this chapter;

(C) a licensee's or transferee's contractors, subcontractors, or customers involved in launch services or reentry services; or

(D) the customer's contractors or subcontractors involved in launch services or reentry services.

(17) "United States" means the States of the United States, the District of Columbia, and the territories and possessions of the United States.

§ 70103. General authority

(a) GENERAL.—The Secretary of Transportation shall carry out this chapter.

(b) FACILITATING COMMERCIAL LAUNCHES AND REENTRIES.—In carrying out this chapter, the Secretary shall—

(1) encourage, facilitate, and promote commercial space launches and reentries by the private sector; and

(2) take actions to facilitate private sector involvement in commercial space transportation activity, and to promote public-private partnerships involving the United States Government, State governments, and the private sector to build, expand, modernize, or operate a space launch and reentry infrastructure.

(c) EXECUTIVE AGENCY ASSISTANCE.—When necessary, the head of an executive agency shall assist the Secretary in carrying out this chapter.

§ 70104. Restrictions on launches, operations, and reentries

(a) LICENSE REQUIREMENT.—A license issued or transferred under this chapter is required for the following:

(1) for a person to launch a launch vehicle or to operate a launch site or reentry site, or to reenter a reentry vehicle, in the United States.

(2) for a citizen of the United States (as defined in section 70102(1)(A) or (B) of this title) to launch a launch vehicle or to operate a launch site or reentry site, or to reenter a reentry vehicle, outside the United States.

(3) for a citizen of the United States (as defined in section 70102(1)(C) of this title) to launch a launch vehicle or to operate a launch site or reentry site, or to reenter a reentry vehicle, outside the United States and outside the territory of a foreign country unless there is an agreement between the United States Government and the government of the foreign country providing that the government of the foreign country has jurisdiction over the launch or operation or reentry.

(4) for a citizen of the United States (as defined in section 70102(1)(C) of this title) to launch a launch vehicle or to operate a launch site or reentry site, or to reenter a reentry vehicle, in the territory of a foreign country if there is an agreement between the United States Government and the government of the foreign country providing that the United States Government has jurisdiction over the launch or operation or reentry.

(b) COMPLIANCE WITH PAYLOAD REQUIREMENTS.—The holder of a license under this chapter may launch or reenter a payload only if the payload complies with all requirements of the laws of the United States related to launching or reentering a payload.

(c) PREVENTING LAUNCHES AND REENTRIES.—The Secretary of Transportation shall establish whether all required licenses, authorizations, and permits required for a payload have been obtained. If no license, authorization, or permit is required, the Secretary may prevent the launch or reentry if the Secretary decides the launch or reentry would jeopardize the public health and safety, safety of property, or national security or foreign policy interest of the United States.

§ 70105. License applications and requirements

(a) APPLICATIONS.—(1) A person may apply to the Secretary of Transportation for a license or transfer of a license under this chapter in the form and way the Secretary prescribes. Consistent with the public health and safety, safety of property, and national security and foreign policy interests of the United States, the Secretary, not later than 180 days after accepting an application in accordance with criteria established pursuant to subsection (b)(2)(D), shall issue or transfer a license if the Secretary decides in writing that the applicant complies, and will continue to comply, with this chapter and regulations prescribed under this chapter. The Secretary shall inform the applicant of any pending issue and action required to resolve the issue if the Secretary has not made a decision not later than 120 days after accepting an application in accordance with criteria established pursuant to subsection (b)(2)(D). The Secretary shall transmit to the Committee on Science of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a written notice not later than 30 days after any occurrence when a license is not issued within the deadline established by this subsection.

(2) In carrying out paragraph (1), the Secretary may establish procedures for safety approvals of launch vehicles, reentry vehicles, safety systems, processes, services, or personnel that may be used

in conducting licensed commercial space launch or reentry activities.

(b) REQUIREMENTS.—(1) Except as provided in this subsection, all requirements of the laws of the United States applicable to the launch of a launch vehicle or the operation of a launch site or a reentry site, or the reentry of a reentry vehicle, are requirements for a license under this chapter.

(2) The Secretary may prescribe—

(A) any term necessary to ensure compliance with this chapter, including on-site verification that a launch, operation, or reentry complies with representations stated in the application;

(B) an additional requirement necessary to protect the public health and safety, safety of property, national security interests, and foreign policy interests of the United States;

(C) by regulation that a requirement of a law of the United States not be a requirement for a license if the Secretary, after consulting with the head of the appropriate executive agency, decides that the requirement is not necessary to protect the public health and safety, safety of property, and national security and foreign policy interests of the United States; and

(D) regulations establishing criteria for accepting or rejecting an application for a license under this chapter within 60 days after receipt of such application.

(3) The Secretary may waive a requirement, including the requirement to obtain a license, for an individual applicant if the Secretary decides that the waiver is in the public interest and will not jeopardize the public health and safety, safety of property, and national security and foreign policy interests of the United States.

(c) PROCEDURES AND TIMETABLES.—The Secretary shall establish procedures and timetables that expedite review of a license application and reduce the regulatory burden for an applicant.

§ 70106. Monitoring activities

(a) GENERAL REQUIREMENTS.—A licensee under this chapter must allow the Secretary of Transportation to place an officer or employee of the United States Government or another individual as an observer at a launch site or reentry site the licensee uses, at a production facility or assembly site a contractor of the licensee uses to produce or assemble a launch vehicle or reentry vehicle, or at a site at which a payload is integrated with a launch vehicle or reentry vehicle. The observer will monitor the activity of the licensee or contractor at the time and to the extent the Secretary considers reasonable to ensure compliance with the license or to carry out the duties of the Secretary under section 70104(c) of this title. A licensee must cooperate with an observer carrying out this subsection.

(b) CONTRACTS.—To the extent provided in advance in an appropriation law, the Secretary may make a contract with a person to carry out subsection (a) of this section.

§ 70107. Effective periods, and modifications, suspensions, and revocations, of licenses

(a) **EFFECTIVE PERIODS OF LICENSES.**—The Secretary of Transportation shall specify the period for which a license issued or transferred under this chapter is in effect.

(b) **MODIFICATIONS.**—On the initiative of the Secretary or on application of the licensee, the Secretary may modify a license issued or transferred under this chapter if the Secretary decides the modification will comply with this chapter.

(c) **SUSPENSIONS AND REVOCATIONS.**—The Secretary may suspend or revoke a license if the Secretary decides that—

(1) the licensee has not complied substantially with a requirement of this chapter or a regulation prescribed under this chapter; or

(2) the suspension or revocation is necessary to protect the public health and safety, the safety of property, or a national security or foreign policy interest of the United States.

(d) **EFFECTIVE PERIODS OF MODIFICATIONS, SUSPENSIONS, AND REVOCATIONS.**—Unless the Secretary specifies otherwise, a modification, suspension, or revocation under this section takes effect immediately and remains in effect during a review under section 70110 of this title.

(e) **NOTIFICATION.**—The Secretary shall notify the licensee in writing of the decision of the Secretary under this section and any action the Secretary takes or proposes to take based on the decision.

§ 70108. Prohibition, suspension, and end of launches, operation of launch sites and reentry sites, and reentries

(a) **GENERAL AUTHORITY.**—The Secretary of Transportation may prohibit, suspend, or end immediately the launch of a launch vehicle or the operation of a launch site or reentry site, or reentry of a reentry vehicle, licensed under this chapter if the Secretary decides the launch or operation or reentry is detrimental to the public health and safety, the safety of property, or a national security or foreign policy interest of the United States.

(b) **EFFECTIVE PERIODS OF ORDERS.**—An order under this section takes effect immediately and remains in effect during a review under section 70110 of this title.

§ 70109. Preemption of scheduled launches or reentries

(a) **GENERAL.**—With the cooperation of the Secretary of Defense and the Administrator of the National Aeronautics and Space Administration, the Secretary of Transportation shall act to ensure that a launch or reentry of a payload is not preempted from access to a United States Government launch site, reentry site, or launch property, except for imperative national need, when a launch date commitment or reentry date commitment from the Government has been obtained for a launch or reentry licensed under this chapter. A licensee or transferee preempted from access to a launch site, reentry site, or launch property does not have to pay the Government any amount for launch services, or services related to a reentry, at-

tributable only to the scheduled launch or reentry prevented by the preemption.

(b) **IMPERATIVE NATIONAL NEED DECISIONS.**—In consultation with the Secretary of Transportation, the Secretary of Defense or the Administrator shall decide when an imperative national need requires preemption under subsection (a) of this section. That decision may not be delegated.

(c) **REPORTS.**—In cooperation with the Secretary of Transportation, the Secretary of Defense or the Administrator, as appropriate, shall submit to Congress not later than 7 days after a decision to preempt under subsection (a) of this section, a report that includes an explanation of the circumstances justifying the decision and a schedule for ensuring the prompt launching or reentry of a preempted payload.

§ 70109a. Space advertising

(a) **LICENSING.**—Notwithstanding the provisions of this chapter or any other provision of law, the Secretary may not, for the launch of a payload containing any material to be used for the purposes of obtrusive space advertising—

- (1) issue or transfer a license under this chapter; or
- (2) waive the license requirements of this chapter.

(b) **LAUNCHING.**—No holder of a license under this chapter may launch a payload containing any material to be used for purposes of obtrusive space advertising.

(c) **COMMERCIAL SPACE ADVERTISING.**—Nothing in this section shall apply to nonobtrusive commercial space advertising, including advertising on—

- (1) commercial space transportation vehicles;
- (2) space infrastructure payloads;
- (3) space launch facilities; and
- (4) launch support facilities.

§ 70110. Administrative hearings and judicial review

(a) **ADMINISTRATIVE HEARINGS.**—The Secretary of Transportation shall provide an opportunity for a hearing on the record to—

(1) an applicant under this chapter, for a decision of the Secretary under section 70105(a) of this title to issue or transfer a license with terms or deny the issuance or transfer of a license;

(2) an owner or operator of a payload under this chapter, for a decision of the Secretary under section 70104(c) of this title to prevent the launch or reentry of the payload; and

(3) a licensee under this chapter, for a decision of the Secretary under—

(A) section 70107 (b) or (c) of this title to modify, suspend, or revoke a license; or

(B) section 70108(a) of this title to prohibit, suspend, or end a launch or operation of a launch site or reentry site, or reentry of a reentry vehicle, licensed by the Secretary.

(b) **JUDICIAL REVIEW.**—A final action of the Secretary under this chapter is subject to judicial review as provided in chapter 7 of title 5.

§ 70111. Acquiring United States Government property and services

(a) **GENERAL REQUIREMENTS AND CONSIDERATIONS.**—(1) The Secretary of Transportation shall facilitate and encourage the acquisition by the private sector and State governments of—

(A) launch or reentry property of the United States Government that is excess or otherwise is not needed for public use; and

(B) launch services and reentry services, including utilities, of the Government otherwise not needed for public use.

(2) In acting under paragraph (1) of this subsection, the Secretary shall consider the commercial availability on reasonable terms of substantially equivalent launch property or launch services or reentry services from a domestic source, whether such source is located on or off a Federal range.

(b) **PRICE.**—(1) In this subsection, “direct costs” means the actual costs that—

(A) can be associated unambiguously with a commercial launch or reentry effort; and

(B) the Government would not incur if there were no commercial launch or reentry effort.

(2) In consultation with the Secretary, the head of the executive agency providing the property or service under subsection (a) of this section shall establish the price for the property or service. The price for—

(A) acquiring launch property by sale or transaction instead of sale is the fair market value;

(B) acquiring launch property (except by sale or transaction instead of sale) is an amount equal to the direct costs, including specific wear and tear and property damage, the Government incurred because of acquisition of the property; and

(C) launch services or reentry services is an amount equal to the direct costs, including the basic pay of Government civilian and contractor personnel, the Government incurred because of acquisition of the services.

(3) The Secretary shall ensure the establishment of uniform guidelines for, and consistent implementation of, this section by all Federal agencies.

(c) **COLLECTION BY SECRETARY.**—The Secretary may collect a payment under this section with the consent of the head of the executive agency establishing the price. Amounts collected under this subsection shall be deposited in the Treasury. Amounts (except for excess launch property) shall be credited to the appropriation from which the cost of providing the property or services was paid.

(d) **COLLECTION BY OTHER GOVERNMENTAL HEADS.**—The head of a department, agency, or instrumentality of the Government may collect a payment for an activity involved in producing a launch vehicle or reentry vehicle, or the payload of either, for launch or reentry if the activity was agreed to by the owner or manufacturer of the launch vehicle, reentry vehicle, or payload.

§ 70112. Liability insurance and financial responsibility requirements

(a) GENERAL REQUIREMENTS.—(1) When a launch or reentry license is issued or transferred under this chapter, the licensee or transferee shall obtain liability insurance or demonstrate financial responsibility in amounts to compensate for the maximum probable loss from claims by—

(A) a third party for death, bodily injury, or property damage or loss resulting from an activity carried out under the license; and

(B) the United States Government against a person for damage or loss to Government property resulting from an activity carried out under the license.

(2) The Secretary of Transportation shall determine the amounts required under paragraph (1)(A) and (B) of this subsection, after consulting with the Administrator of the National Aeronautics and Space Administration, the Secretary of the Air Force, and the heads of other appropriate executive agencies.

(3) For the total claims related to one launch or reentry, a licensee or transferee is not required to obtain insurance or demonstrate financial responsibility of more than—

(A)(i) \$500,000,000 under paragraph (1)(A) of this subsection; or

(ii) \$100,000,000 under paragraph (1)(B) of this subsection; or

(B) the maximum liability insurance available on the world market at reasonable cost if the amount is less than the applicable amount in clause (A)(i) or (ii) of this paragraph.

(4) An insurance policy or demonstration of financial responsibility under this subsection shall protect the following, to the extent of their potential liability for involvement in launch services or reentry services, at no cost to the Government:

(A) the Government.

(B) executive agencies and personnel, contractors, and subcontractors of the Government.

(C) contractors, subcontractors, and customers of the licensee or transferee.

(D) contractors and subcontractors of the customer.

(b) RECIPROCAL WAIVER OF CLAIMS.—(1) A launch or reentry license issued or transferred under this chapter shall contain a provision requiring the licensee or transferee to make a reciprocal waiver of claims with its contractors, subcontractors, and customers, and contractors and subcontractors of the customers, involved in launch services or reentry services under which each party to the waiver agrees to be responsible for property damage or loss it sustains, or for personal injury to, death of, or property damage or loss sustained by its own employees resulting from an activity carried out under the applicable license.

(2) The Secretary of Transportation shall make, for the Government, executive agencies of the Government involved in launch services or reentry services, and contractors and subcontractors involved in launch services or reentry services, a reciprocal waiver of claims with the licensee or transferee, contractors, subcontractors, and customers of the licensee or transferee, and contractors and

subcontractors of the customers, involved in launch services or reentry services under which each party to the waiver agrees to be responsible for property damage or loss it sustains, or for personal injury to, death of, or property damage or loss sustained by its own employees resulting from an activity carried out under the applicable license. The waiver applies only to the extent that claims are more than the amount of insurance or demonstration of financial responsibility required under subsection (a)(1)(B) of this section. After consulting with the Administrator and the Secretary of the Air Force, the Secretary of Transportation may waive, for the Government and a department, agency, and instrumentality of the Government, the right to recover damages for damage or loss to Government property to the extent insurance is not available because of a policy exclusion the Secretary of Transportation decides is usual for the type of insurance involved.

(c) DETERMINATION OF MAXIMUM PROBABLE LOSSES.—The Secretary of Transportation shall determine the maximum probable losses under subsection (a)(1)(A) and (B) of this section associated with an activity under a license not later than 90 days after a licensee or transferee requires a determination and submits all information the Secretary requires. The Secretary shall amend the determination as warranted by new information.

(d) ANNUAL REPORT.—(1) Not later than November 15 of each year, the Secretary of Transportation shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science of the House of Representatives a report on current determinations made under subsection (c) of this section related to all issued licenses and the reasons for the determinations.

(2) Not later than May 15 of each year, the Secretary of Transportation shall review the amounts specified in subsection (a)(3)(A) of this section and submit a report to Congress that contains proposed adjustments in the amounts to conform with changed liability expectations and availability of insurance on the world market. The proposed adjustment takes effect 30 days after a report is submitted.

(e) LAUNCHES OR REENTRIES INVOLVING GOVERNMENT FACILITIES AND PERSONNEL.—The Secretary of Transportation shall establish requirements consistent with this chapter for proof of financial responsibility and other assurances necessary to protect the Government and its executive agencies and personnel from liability, death, bodily injury, or property damage or loss as a result of a launch or operation of a launch site or reentry site or a reentry involving a facility or personnel of the Government. The Secretary may not relieve the Government of liability under this subsection for death, bodily injury, or property damage or loss resulting from the willful misconduct of the Government or its agents.

(f) COLLECTION AND CREDITING PAYMENTS.—The head of a department, agency, or instrumentality of the Government shall collect a payment owed for damage or loss to Government property under its jurisdiction or control resulting from an activity carried out under a launch or reentry license issued or transferred under this chapter. The payment shall be credited to the current applicable appropriation, fund, or account of the department, agency, or instrumentality.

§ 70113. Paying claims exceeding liability insurance and financial responsibility requirements

(a) GENERAL REQUIREMENTS.—(1) To the extent provided in advance in an appropriation law or to the extent additional legislative authority is enacted providing for paying claims in a compensation plan submitted under subsection (d) of this section, the Secretary of Transportation shall provide for the payment by the United States Government of a successful claim (including reasonable litigation or settlement expenses) of a third party against a licensee or transferee under this chapter, a contractor, subcontractor, or customer of the licensee or transferee, or a contractor or subcontractor of a customer, resulting from an activity carried out under the license issued or transferred under this chapter for death, bodily injury, or property damage or loss resulting from an activity carried out under the license. However, claims may be paid under this section only to the extent the total amount of successful claims related to one launch or reentry—

(A) is more than the amount of insurance or demonstration of financial responsibility required under section 70112(a)(1)(A) of this title; and

(B) is not more than \$1,500,000,000 (plus additional amounts necessary to reflect inflation occurring after January 1, 1989) above that insurance or financial responsibility amount.

(2) The Secretary may not provide for paying a part of a claim for which death, bodily injury, or property damage or loss results from willful misconduct by the licensee or transferee. To the extent insurance required under section 70112(a)(1)(A) of this title is not available to cover a successful third party liability claim because of an insurance policy exclusion the Secretary decides is usual for the type of insurance involved, the Secretary may provide for paying the excluded claims without regard to the limitation contained in section 70112(a)(1).

(b) NOTICE, PARTICIPATION, AND APPROVAL.—Before a payment under subsection (a) of this section is made—

(1) notice must be given to the Government of a claim, or a civil action related to the claim, against a party described in subsection (a)(1) of this section for death, bodily injury, or property damage or loss;

(2) the Government must be given an opportunity to participate or assist in the defense of the claim or action; and

(3) the Secretary must approve any part of a settlement to be paid out of appropriations of the Government.

(c) WITHHOLDING PAYMENTS.—The Secretary may withhold a payment under subsection (a) of this section if the Secretary certifies that the amount is not reasonable. However, the Secretary shall deem to be reasonable the amount of a claim finally decided by a court of competent jurisdiction.

(d) SURVEYS, REPORTS, AND COMPENSATION PLANS.—(1) If as a result of an activity carried out under a license issued or transferred under this chapter the total of claims related to one launch or reentry is likely to be more than the amount of required insurance or demonstration of financial responsibility, the Secretary shall—

- (A) survey the causes and extent of damage; and
- (B) submit expeditiously to Congress a report on the results of the survey.

(2) Not later than 90 days after a court determination indicates that the liability for the total of claims related to one launch or re-entry may be more than the required amount of insurance or demonstration of financial responsibility, the President, on the recommendation of the Secretary, shall submit to Congress a compensation plan that—

- (A) outlines the total dollar value of the claims;
- (B) recommends sources of amounts to pay for the claims;
- (C) includes legislative language required to carry out the plan if additional legislative authority is required; and
- (D) for a single event or incident, may not be for more than \$1,500,000,000.

(3) A compensation plan submitted to Congress under paragraph (2) of this subsection shall—

- (A) have an identification number; and
- (B) be submitted to the Senate and the House of Representatives on the same day and when the Senate and House are in session.

(e) CONGRESSIONAL RESOLUTIONS.—(1) In this subsection, “resolution”—

(A) means a joint resolution of Congress the matter after the resolving clause of which is as follows: “That the Congress approves the compensation plan numbered _____ submitted to the Congress on _____, 20____.”, with the blank spaces being filled appropriately; but

(B) does not include a resolution that includes more than one compensation plan.

(2) The Senate shall consider under this subsection a compensation plan requiring additional appropriations or legislative authority not later than 60 calendar days of continuous session of Congress after the date on which the plan is submitted to Congress.

(3) A resolution introduced in the Senate shall be referred immediately to a committee by the President of the Senate. All resolutions related to the same plan shall be referred to the same committee.

(4)(A) If the committee of the Senate to which a resolution has been referred does not report the resolution within 20 calendar days after it is referred, a motion is in order to discharge the committee from further consideration of the resolution or to discharge the committee from further consideration of the plan.

(B) A motion to discharge may be made only by an individual favoring the resolution and is highly privileged (except that the motion may not be made after the committee has reported a resolution on the plan). Debate on the motion is limited to one hour, to be divided equally between those favoring and those opposing the resolution. An amendment to the motion is not in order. A motion to reconsider the vote by which the motion is agreed to or disagreed to is not in order.

(C) If the motion to discharge is agreed to or disagreed to, the motion may not be renewed and another motion to discharge the

committee from another resolution on the same plan may not be made.

(5)(A) After a committee of the Senate reports, or is discharged from further consideration of, a resolution, a motion to proceed to the consideration of the resolution is in order at any time, even though a similar previous motion has been disagreed to. The motion is highly privileged and is not debatable. An amendment to the motion is not in order. A motion to reconsider the vote by which the motion is agreed to or disagreed to is not in order.

(B) Debate on the resolution referred to in subparagraph (A) of this paragraph is limited to not more than 10 hours, to be divided equally between those favoring and those opposing the resolution. A motion further to limit debate is not debatable. An amendment to, or motion to recommit, the resolution is not in order. A motion to reconsider the vote by which the resolution is agreed to or disagreed to is not in order.

(6) The following shall be decided in the Senate without debate:

(A) a motion to postpone related to the discharge from committee.

(B) a motion to postpone consideration of a resolution.

(C) a motion to proceed to the consideration of other business.

(D) an appeal from a decision of the chair related to the application of the rules of the Senate to the procedures related to a resolution.

(f) APPLICATION.—This section applies to a license issued or transferred under this chapter for which the Secretary receives a complete and valid application not later than December 31, 2004.

§ 70114. Disclosing information

The Secretary of Transportation, an officer or employee of the United States Government, or a person making a contract with the Secretary under section 70106(b) of this title may disclose information under this chapter that qualifies for an exemption under section 552(b)(4) of title 5 or is designated as confidential by the person or head of the executive agency providing the information only if the Secretary decides withholding the information is contrary to the public or national interest.

§ 70115. Enforcement and penalty

(a) PROHIBITIONS.—A person may not violate this chapter, a regulation prescribed under this chapter, or any term of a license issued or transferred under this chapter.

(b) GENERAL AUTHORITY.—(1) In carrying out this chapter, the Secretary of Transportation may—

(A) conduct investigations and inquiries;

(B) administer oaths;

(C) take affidavits; and

(D) under lawful process—

(i) enter at a reasonable time a launch site, reentry site, production facility, assembly site of a launch vehicle or reentry vehicle, or site at which a payload is integrated with a launch vehicle or reentry vehicle to inspect an object to which this chapter applies or a record or report the

Secretary requires be made or kept under this chapter; and

(ii) seize the object, record, or report when there is probable cause to believe the object, record, or report was used, is being used, or likely will be used in violation of this chapter.

(2) The Secretary may delegate a duty or power under this chapter related to enforcement to an officer or employee of another executive agency with the consent of the head of the agency.

(c) CIVIL PENALTY.—(1) After notice and an opportunity for a hearing on the record, a person the Secretary finds to have violated subsection (a) of this section is liable to the United States Government for a civil penalty of not more than \$100,000. A separate violation occurs for each day the violation continues.

(2) In conducting a hearing under paragraph (1) of this subsection, the Secretary may—

(A) subpoena witnesses and records; and

(B) enforce a subpoena in an appropriate district court of the United States.

(3) The Secretary shall impose the civil penalty by written notice. The Secretary may compromise or remit a penalty imposed, or that may be imposed, under this section.

(4) The Secretary shall recover a civil penalty not paid after the penalty is final or after a court enters a final judgment for the Secretary.

§ 70116. Consultation

(a) MATTERS AFFECTING NATIONAL SECURITY.—The Secretary of Transportation shall consult with the Secretary of Defense on a matter under this chapter affecting national security. The Secretary of Defense shall identify and notify the Secretary of Transportation of a national security interest relevant to an activity under this chapter.

(b) MATTERS AFFECTING FOREIGN POLICY.—The Secretary of Transportation shall consult with the Secretary of State on a matter under this chapter affecting foreign policy. The Secretary of State shall identify and notify the Secretary of Transportation of a foreign policy interest or obligation relevant to an activity under this chapter.

(c) OTHER MATTERS.—In carrying out this chapter, the Secretary of Transportation shall consult with the head of another executive agency—

(1) to provide consistent application of licensing requirements under this chapter;

(2) to ensure fair treatment for all license applicants; and

(3) when appropriate.

§ 70117. Relationship to other executive agencies, laws, and international obligations

(a) EXECUTIVE AGENCIES.—Except as provided in this chapter, a person is not required to obtain from an executive agency a license, approval, waiver, or exemption to launch a launch vehicle or operate a launch site or reentry site, or to reenter a reentry vehicle.

(b) FEDERAL COMMUNICATIONS COMMISSION AND SECRETARY OF COMMERCE.—This chapter does not affect the authority of—

(1) the Federal Communications Commission under the Communications Act of 1934 (47 U.S.C. 151 et seq.); or

(2) the Secretary of Commerce under the Land Remote Sensing Policy Act of 1992 (15 U.S.C. 5601 et seq.).

(c) STATES AND POLITICAL SUBDIVISIONS.—A State or political subdivision of a State—

(1) may not adopt or have in effect a law, regulation, standard, or order inconsistent with this chapter; but

(2) may adopt or have in effect a law, regulation, standard, or order consistent with this chapter that is in addition to or more stringent than a requirement of, or regulation prescribed under, this chapter.

(d) CONSULTATION.—The Secretary of Transportation is encouraged to consult with a State to simplify and expedite the approval of a space launch or reentry activity.

(e) FOREIGN COUNTRIES.—The Secretary of Transportation shall—

(1) carry out this chapter consistent with an obligation the United States Government assumes in a treaty, convention, or agreement in force between the Government and the government of a foreign country; and

(2) consider applicable laws and requirements of a foreign country when carrying out this chapter.

(f) LAUNCH NOT AN EXPORT; REENTRY NOT AN IMPORT.—A launch vehicle, reentry vehicle, or payload that is launched or reentered is not, because of the launch or reentry, an export or import, respectively, for purposes of a law controlling exports or imports, except that payloads launched pursuant to foreign trade zone procedures as provided for under the Foreign Trade Zones Act (19 U.S.C. 81a–81u) shall be considered exports with regard to customs entry.

(g) NONAPPLICATION.—This chapter does not apply to—

(1) a launch, reentry, operation of a launch vehicle or reentry vehicle, operation of a launch site or reentry site, or other space activity the Government carries out for the Government; or

(2) planning or policies related to the launch, reentry, operation, or activity.

§ 70118. User fees

The Secretary of Transportation may collect a user fee for a regulatory or other service conducted under this chapter only if specifically authorized by this chapter.

§ 70119. Office of Commercial Space Transportation

There are authorized to be appropriated to the Secretary of Transportation for the activities of the Office of the Associate Administrator for Commercial Space Transportation—

(1) \$12,607,000 for fiscal year 2001; and

(2) \$16,478,000 for fiscal year 2002.

§ 70120. Regulations

(a) IN GENERAL.—The Secretary of Transportation, within 9 months after the date of the enactment of this section, shall issue regulations to carry out this chapter that include—

- (1) guidelines for industry and State governments to obtain sufficient insurance coverage for potential damages to third parties;
- (2) procedures for requesting and obtaining licenses to launch a commercial launch vehicle;
- (3) procedures for requesting and obtaining operator licenses for launch;
- (4) procedures for requesting and obtaining launch site operator licenses; and
- (5) procedures for the application of government indemnification.

(b) REENTRY.—The Secretary of Transportation, within 6 months after the date of the enactment of this section, shall issue a notice of proposed rulemaking to carry out this chapter that includes—

- (1) procedures for requesting and obtaining licenses to reenter a reentry vehicle;
- (2) procedures for requesting and obtaining operator licenses for reentry; and
- (3) procedures for requesting and obtaining reentry site operator licenses.

§ 70121. Report to Congress

The Secretary of Transportation shall submit to Congress an annual report to accompany the President’s budget request that—

- (1) describes all activities undertaken under this chapter, including a description of the process for the application for and approval of licenses under this chapter and recommendations for legislation that may further commercial launches and reentries; and
- (2) reviews the performance of the regulatory activities and the effectiveness of the Office of Commercial Space Transportation.

* * * * *

EXPERIMENTAL PROGRAM TO STIMULATE COMPETITIVE RESEARCH ON SPACE AND AERONAUTICS ACT¹

TITLE III—EXPERIMENTAL PROGRAM TO STIMULATE COMPETITIVE RESEARCH ON SPACE AND AERONAUTICS

SEC. 301. [42 U.S.C. 2467b note] SHORT TITLE.

This title may be cited as the “Experimental Program to Stimulate Competitive Research on Space and Aeronautics Act”.

SEC. 302. [42 U.S.C. 2467b note] FINDINGS.

Congress finds that—

(1) the report of the Advisory Committee on the Future of the United States Space Program has provided a framework within which a consensus on the goals of the space program can be developed;

(2) the National Aeronautics and Space Administration’s space science and applications, aeronautical research and technology, and space research and technology programs will serve as the fulcrum for future initiatives by the United States in civil space and aviation;

(3) colleges and universities in many States are currently not able to compete successfully for research grants awarded by the National Aeronautics and Space Administration through its space science and applications, aeronautical research and technology, and space research and technology programs;

(4) balanced programs of space science and applications, aeronautical research and technology, and space research and technology should include initiatives designed to foster competitive research capacity in all geographic areas of the Nation; and

(5) by strengthening the competitive research capacity in those geographic areas of the Nation which are not currently fully competitive, the education and training of scientists and engineers important to the future of the United States civil space and aviation programs will be fostered.

SEC. 303. [42 U.S.C. 2467b note] POLICY.

It is the policy of the United States that—

(1) the Administrator, in planning for national programs in space science and applications, aeronautical research, space flight, and exploration, should ensure the resilience of the space and aeronautics research infrastructure;

¹This title was enacted as title III of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1993 (Public Law 102-588).

(2) a stable and balanced program of space science and applications, aeronautical research and technology, and space research and technology should include programs to assure that geographic areas of the United States that currently do not successfully participate in competitive space and aeronautical research activities are enabled to become more competitive; and

(3) programs to improve competitive capabilities should be a part of the research and the educational activities of the National Aeronautics and Space Administration.

SEC. 304. [42 U.S.C. 2467b] REQUIREMENTS.

(a) **COMPETITION.**—Making use of the existing infrastructure established in eligible States by the National Science Foundation, the Administrator shall conduct a merit grant competition among the eligible States in areas of research important to the mission of the National Aeronautics and Space Administration. With respect to a grant application by an eligible State, the Administrator shall consider—

(1) the application's merit and relevance to the mission of the National Aeronautics and Space Administration;

(2) the potential for the grant to serve as a catalyst to enhance the ability of researchers in the State to become more competitive for regular National Aeronautics and Space Administration funding;

(3) the potential for the grant to improve the environment for science, mathematics, and engineering education in the State; and

(4) the need to assure the maximum distribution of grants among eligible States, consistent with merit.

(b) **SUPPLEMENTAL GRANTS.**—The Administrator shall endeavor, where appropriate, to supplement grants made under subsection (a) with such grants for fellowships, traineeships, equipment, or instrumentation as are available.

(c) **ELIGIBLE STATES DEFINED.**—In this section, the term "eligible State" means a State designated by the Administrator as eligible to compete in the Foundation's Experimental Program to Stimulate Competitive Research.

SEC. 305. [42 U.S.C. 2467b note] AUTHORIZATION OF APPROPRIATIONS.

In carrying out the programs listed in section 102(a), the Administrator should ensure that up to \$10,000,000 from the appropriations authorized for "Research and Development", for fiscal year 1993 are also used for purposes of establishing and developing an Experimental Program to Stimulate Competitive Research on Space and Aeronautics.

LAND REMOTE SENSING POLICY ACT OF 1992

AN ACT To enable the United States to maintain its leadership in land remote sensing by providing data continuity for the Landsat program, to establish a new national land remote sensing policy, and for other purposes.

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

SECTION. 1. [15 U.S.C. 5601 note] SHORT TITLE.

This Act may be cited as the "Land Remote Sensing Policy Act of 1992".

SEC. 2. [15 U.S.C. 5601] FINDINGS.

The Congress finds and declares the following:

(1) The continuous collection and utilization of land remote sensing data from space are of major benefit in studying and understanding human impacts on the global environment, in managing the Earth's natural resources, in carrying out national security functions, and in planning and conducting many other activities of scientific, economic, and social importance.

(2) The Federal Government's Landsat system established the United States as the world leader in land remote sensing technology.

(3) The national interest of the United States lies in maintaining international leadership in satellite land remote sensing and in broadly promoting the beneficial use of remote sensing data.

(4) The cost of Landsat data has impeded the use of such data for scientific purposes, such as for global environmental change research, as well as for other public sector applications.

(5) Given the importance of the Landsat program to the United States, urgent actions, including expedited procurement procedures, are required to ensure data continuity.

(6) Full commercialization of the Landsat program cannot be achieved within the foreseeable future, and thus should not serve as the near-term goal of national policy on land remote sensing; however, commercialization of land remote sensing should remain a long-term goal of United States policy.

(7) Despite the success and importance of the Landsat system, funding and organizational uncertainties over the past several years have placed its future in doubt and have jeopardized United States leadership in land remote sensing.

(8) Recognizing the importance of the Landsat program in helping to meet national and commercial objectives, the President approved, on February 11, 1992, a National Space Policy

Directive which was developed by the National Space Council and commits the United States to ensuring the continuity of Landsat coverage into the 21st century.

(9) Because Landsat data are particularly important for national security purposes and global environmental change research, management responsibilities for the program should be transferred from the Department of Commerce to an integrated program management involving the Department of Defense and the National Aeronautics and Space Administration.

(10) Regardless of management responsibilities for the Landsat program, the Nation's broad civilian, national security, commercial, and foreign policy interests in remote sensing will best be served by ensuring that Landsat remains an unclassified program that operates according to the principles of open skies and nondiscriminatory access.

(11) Technological advances aimed at reducing the size and weight of satellite systems hold the potential for dramatic reductions in the cost, and substantial improvements in the capabilities, of future land remote sensing systems, but such technological advances have not been demonstrated for land remote sensing and therefore cannot be relied upon as the sole means of achieving data continuity for the Landsat program.

(12) A technology demonstration program involving advanced remote sensing technologies could serve a vital role in determining the design of a follow-on spacecraft to Landsat 7, while also helping to determine whether such a spacecraft should be funded by the United States Government, by the private sector, or by an international consortium.

(13) To maximize the value of the Landsat program to the American public, unenhanced Landsat 4 through 6 data should be made available, at a minimum, to United States Government agencies, to global environmental change researchers, and to other researchers who are financially supported by the United States Government, at the cost of fulfilling user requests, and unenhanced Landsat 7 data should be made available to all users at the cost of fulfilling user requests.

(14) To stimulate development of the commercial market for unenhanced data and value-added services, the United States Government should adopt a data policy for Landsat 7 which allows competition within the private sector for distribution of unenhanced data and value-added services.

(15) Development of the remote sensing market and the provision of commercial value-added services based on remote sensing data should remain exclusively the function of the private sector.

(16) It is in the best interest of the United States to maintain a permanent, comprehensive Government archive of global Landsat and other land remote sensing data for long-term monitoring and study of the changing global environment.

SEC. 3. [15 U.S.C. 5602] DEFINITIONS.

In this Act, the following definitions apply:

(1) The term "Administrator" means the Administrator of the National Aeronautics and Space Administration.

(2) The term "cost of fulfilling user requests" means the incremental costs associated with providing product generation, reproduction, and distribution of unenhanced data in response to user requests and shall not include any acquisition, amortization, or depreciation of capital assets originally paid for by the United States Government or other costs not specifically attributable to fulfilling user requests.

(3) The term "data continuity" means the continued acquisition and availability of unenhanced data which are, from the point of view of the user—

(A) sufficiently consistent (in terms of acquisition geometry, coverage characteristics, and spectral characteristics) with previous Landsat data to allow comparisons for global and regional change detection and characterization; and

(B) compatible with such data and with methods used to receive and process such data.

(4) The term "data preprocessing" may include—

(A) rectification of system and sensor distortions in land remote sensing data as it is received directly from the satellite in preparation for delivery to a user;

(B) registration of such data with respect to features of the Earth; and

(C) calibration of spectral response with respect to such data, but does not include conclusions, manipulations, or calculations derived from such data, or a combination of such data with other data.

(5) The term "land remote sensing" means the collection of data which can be processed into imagery of surface features of the Earth from an unclassified satellite or satellites, other than an operational United States Government weather satellite.

(6) The term "Landsat Program Management" means the integrated program management structure—

(A) established by, and responsible to, the Administrator and the Secretary of Defense pursuant to section 101(a); and

(B) consisting of appropriate officers and employees of the National Aeronautics and Space Administration, the Department of Defense, and any other United States Government agencies the President designates as responsible for the Landsat program.

(7) The term "Landsat system" means Landsats 1, 2, 3, 4, 5, and 6, and any follow-on land remote sensing system operated and owned by the United States Government, along with any related ground equipment, systems, and facilities owned by the United States Government.

(8) The term "Landsat 6 contractor" means the private sector entity which was awarded the contract for spacecraft construction, operations, and data marketing rights for the Landsat 6 spacecraft.

(9) The term "Landsat 7" means the follow-on satellite to Landsat 6.

(10) The term "National Satellite Land Remote Sensing Data Archive" means the archive established by the Secretary

of the Interior pursuant to the archival responsibilities defined in section 502.

(11) The term “noncommercial purposes” refers to those activities undertaken by individuals or entities on the condition, upon receipt of unenhanced data, that—

(A) such data shall not be used in connection with any bid for a commercial contract, development of a commercial product, or any other non-United States Government activity that is expected, or has the potential, to be profit-making;

(B) the results of such activities are disclosed in a timely and complete fashion in the open technical literature or other method of public release, except when such disclosure by the United States Government or its contractors would adversely affect the national security or foreign policy of the United States or violate a provision of law or regulation; and

(C) such data shall not be distributed in competition with unenhanced data provided by the Landsat 6 contractor.

(12) The term “Secretary” means the Secretary of Commerce.

(13) The term “unenhanced data” means land remote sensing signals or imagery products that are unprocessed or subject only to data preprocessing.

(14) The term “United States Government and its affiliated users” means—

(A) United States Government agencies;

(B) researchers involved with the United States Global Change Research Program and its international counterpart programs; and

(C) other researchers and international entities that have signed with the United States Government a cooperative agreement involving the use of Landsat data for non-commercial purposes.

SEC. 4. REPEAL OF LAND REMOTE-SENSING COMMERCIALIZATION ACT OF 1984.

The Land Remote-Sensing Commercialization Act of 1984 (15 U.S.C. 4201 et seq.) is repealed.

TITLE I—LANDSAT

SEC. 101. [15 U.S.C. 5611] LANDSAT PROGRAM MANAGEMENT.

(a) **ESTABLISHMENT.**—The Administrator and the Secretary of Defense shall be responsible for management of the Landsat program. Such responsibility shall be carried out by establishing an integrated program management structure for the Landsat system.

(b) **MANAGEMENT PLAN.**—The Administrator, the Secretary of Defense, and any other United States Government official the President designates as responsible for part of the Landsat program, shall establish, through a management plan, the roles, responsibilities, and funding expectations for the Landsat Program of the appropriate United States Government agencies. The management plan shall—

(1) specify that the fundamental goal of the Landsat Program Management is the continuity of unenhanced Landsat data through the acquisition and operation of a Landsat 7 satellite as quickly as practicable which is, at a minimum, functionally equivalent to the Landsat 6 satellite, with the addition of a tracking and data relay satellite communications capability;

(2) include a baseline funding profile that—

(A) is mutually acceptable to the National Aeronautics and Space Administration and the Department of Defense for the period covering the development and operation of Landsat 7; and

(B) provides for total funding responsibility of the National Aeronautics and Space Administration and the Department of Defense, respectively, to be approximately equal to the funding responsibility of the other as spread across the development and operational life of Landsat 7;

(3) specify that any improvements over the Landsat 6 functional equivalent capability for Landsat 7 will be funded by a specific sponsoring agency or agencies, in a manner agreed to by the Landsat Program Management, if the required funding exceeds the baseline funding profile required by paragraph (2), and that additional improvements will be sought only if the improvements will not jeopardize data continuity; and

(4) provide for a technology demonstration program whose objective shall be the demonstration of advanced land remote sensing technologies that may potentially yield a system which is less expensive to build and operate, and more responsive to data users, than is the current Landsat system.

(c) RESPONSIBILITIES.—The Landsat Program Management shall be responsible for—

(1)¹ Landsat 7 procurement, launch, and operations;

(2) ensuring that the operation of the Landsat system is responsive to the broad interests of the civilian, national security, commercial, and foreign users of the Landsat system;

(3) ensuring that all unenhanced Landsat data remain unclassified and that, except as provided in section 506 (a) and (b), no restrictions are placed on the availability of unenhanced data;

(4) ensuring that land remote sensing data of high priority locations will be acquired by the Landsat 7 system as required to meet the needs of the United States Global Change Research Program, as established in the Global Change Research Act of 1990, and to meet the needs of national security users;

(5) Landsat data responsibilities pursuant to this Act;

(6) oversight of Landsat contracts entered into under sections 102 and 103;

(7) coordination of a technology demonstration program, pursuant to section 303; and

(8) ensuring that copies of data acquired by the Landsat system are provided to the National Satellite Land Remote Sensing Data Archive.

¹The margin for paragraph (1) of section 101(c) so in law.

(d) **AUTHORITY TO CONTRACT.**—The Landsat Program Management may, subject to appropriations and only under the existing contract authority of the United States Government agencies that compose the Landsat Program Management, enter into contracts with the private sector for services such as, but not limited to, satellite operations and data preprocessing.

(e) **LANDSAT ADVISORY PROCESS.**—

(1) **ESTABLISHMENT.**—The Landsat Program Management shall seek impartial advice and comments regarding the status, effectiveness, and operation of the Landsat system, using existing advisory committees and other appropriate mechanisms. Such advice shall be sought from individuals who represent—

(A) a broad range of perspectives on basic and applied science and operational needs with respect to land remote sensing data;

(B) the full spectrum of users of Landsat data, including representatives from United States Government agencies, State and local government agencies, academic institutions, nonprofit organizations, value-added companies, the agricultural, mineral extraction, and other user industries, and the public, and

(C) a broad diversity of age groups, sexes, and races.

(2) **REPORTS.**—Within 1 year after the date of the enactment of this Act and biennially thereafter, the Landsat Program Management shall prepare and submit a report to the Congress which—

(A) reports the public comments received pursuant to paragraph (1); and

(B) includes—

(i) a response to the public comments received pursuant to paragraph (1);

(ii) information on the volume of use, by category, of data from the Landsat system; and

(iii) any recommendations for policy or programmatic changes to improve the utility and operation of the Landsat system.

SEC. 102. [15 U.S.C. 5612] PROCUREMENT OF LANDSAT 7.

(a) **CONTRACT NEGOTIATIONS.**—The Landsat Program Management shall, subject to appropriations and only under the existing contract authority of the United States Government agencies that compose the Landsat Program Management, expeditiously contract with a United States private sector entity for the development and delivery of Landsat 7.

(b) **DEVELOPMENT AND DELIVERY CONSIDERATION.**—In negotiating a contract under this section for the development and delivery of Landsat 7, the Landsat Program Management shall—

(1) seek, as a fundamental objective, to have Landsat 7 operational by the expected end of the design life of Landsat 6;

(2) seek to ensure data continuity by the development and delivery of a satellite which is, at a minimum, functionally equivalent to the Landsat 6 satellite; and

(3) seek to incorporate in Landsat 7 any performance improvements required to meet United States Government needs that would not jeopardize data continuity.

(c) **NOTIFICATION OF COST AND SCHEDULE CHANGES.**—The Landsat Program Management shall promptly notify the Congress of any significant deviations from the expected cost, delivery date, and launch date of Landsat 7, that are specified by the Landsat Program Management upon award of the contract under this section.

(d) **UNITED STATES PRIVATE SECTOR ENTITIES.**—The Landsat Program Management shall, for purposes of this Act, define the term “United States private sector entities”, taking into account the location of operations, assets, personnel, and other such factors.

SEC. 103. [15 U.S.C. 5613] DATA POLICY FOR LANDSAT 4 THROUGH 6.

(a) **CONTRACT NEGOTIATIONS.**—Within 30 days after the date of enactment of this Act, the Landsat Program Management shall enter into negotiations with the Landsat 6 contractor to formalize an arrangement with respect to pricing, distribution, acquisition, archiving, and availability of unenhanced data for which the Landsat 6 contractor has responsibility under its contract. Such arrangement shall provide for a phased transition to a data policy consistent with the Landsat 7 data policy (developed pursuant to section 105) by the date of initial operation of Landsat 7. Conditions of the phased arrangement should require that the Landsat 6 contractor adopt provisions so that by the final phase of the transition period—

(1) such unenhanced data shall be provided, at a minimum, to the United States Government and its affiliated users at the cost of fulfilling user requests, on the condition that such unenhanced data are used solely for noncommercial purposes;

(2) instructional data sets, selected from the Landsat data archives, will be made available to educational institutions exclusively for noncommercial, educational purposes at the cost of fulfilling user requests;

(3) Landsat data users are able to acquire unenhanced data contained in the collective archives of foreign ground stations as easily and affordably as practicable;

(4) adequate data necessary to meet the needs of global environmental change researchers and national security users are acquired;

(5) the United States Government and its affiliated users shall not be prohibited from reproduction or dissemination of unenhanced data to other agencies of the United States Government and other affiliated users, on the condition that such unenhanced data are used solely for noncommercial purposes;

(6) nonprofit, public interest entities receive vouchers, data grants, or other such means of providing them with unenhanced data at the cost of fulfilling user requests, on the condition that such unenhanced data are used solely for noncommercial purposes.

(7) a viable role for the private sector in the promotion and development of the commercial market for value added and

other services using unenhanced data from the Landsat system is preserved; and

(8) unenhanced data from the Landsat system are provided to the National Satellite Land Remote Sensing Data Archive at no more than the cost of fulfilling user requests.

(b) **FAILURE TO REACH AGREEMENT.**—If negotiations under subsection (a) have not, by September 30, 1993, resulted in an agreement that the Landsat Program Management determines generally achieves the goals stated in subsection (b) (1) through (8), the Administrator and the Secretary of Defense shall, within 30 days after the date of such determination, jointly certify and report such determination to the Congress. The report shall include a review of options and projected costs for achieving such goals, and shall include recommendations for achieving such goals. The options reviewed shall include—

(1) retaining the existing or modified contract with the Landsat 6 contractor;

(2) the termination of existing contracts for the exclusive right to market unenhanced Landsat data; and

(3) the establishment of an alternative private sector mechanism for the marketing and commercial distribution of such data.

SEC. 104. [15 U.S.C. 5614] TRANSFER OF LANDSAT 6 PROGRAM RESPONSIBILITIES.

The responsibilities of the Secretary with respect to Landsat 6 shall be transferred to the Landsat Program Management, as agreed to between the Secretary and the Landsat Program Management, pursuant to section 101.

SEC. 105. [15 U.S.C. 5615] DATA POLICY FOR LANDSAT 7.

(a) **LANDSAT 7 DATA POLICY.**—The Landsat Program Management, in consultation with other appropriate United States Government agencies, shall develop a data policy for Landsat 7 which should—

(1) ensure that unenhanced data are available to all users at the cost of fulfilling user requests;

(2) ensure timely and dependable delivery of unenhanced data to the full spectrum of civilian, national security, commercial, and foreign users and the National Satellite Land Remote Sensing Data Archive;

(3) ensure that the United States retains ownership of all unenhanced data generated by Landsat 7;

(4) support the development of the commercial market for remote sensing data;

(5) ensure that the provision of commercial value-added services based on remote sensing data remains exclusively the function of the private sector; and

(6) to the extent possible, ensure that the data distribution system for Landsat 7 is compatible with the Earth Observing System Data and Information System.

(b) In addition, the data policy for Landsat 7 may provide for—

(1) United States private sector entities to operate ground receiving stations in the United States for Landsat 7 data;

(2) other means for direct access by private sector entities to unenhanced data from Landsat 7; and

(3) the United States Government to charge a per image fee, license fee, or other such fee to entities operating ground receiving stations or distributing Landsat 7 data.

(c) **LANDSAT 7 DATA POLICY PLAN.**—Not later than July 15, 1994, the Landsat Program Management shall develop and submit to Congress a report that contains a Landsat 7 Data Policy Plan. This plan shall define the roles and responsibilities of the various public and private sector entities that would be involved in the acquisition, processing, distribution, and archiving of Landsat 7 data and in operations of the Landsat 7 spacecraft.

(d) **REPORTS.**—Not later than 12 months after submission of the Landsat 7 Data Policy Plan, required by subsection (c), and annually thereafter until the launch of Landsat 7, the Landsat Program Management, in consultation with representatives of appropriate United States Government agencies, shall prepare and submit a report to the Congress which—

(1) provides justification for the Landsat 7 data policy in terms of the civilian, national security, commercial, and foreign policy needs of the United States; and

(2) provides justification for any elements of the Landsat 7 data policy which are not consistent with the provisions of subsection (a).

TITLE II—LICENSING OF PRIVATE REMOTE SENSING SPACE SYSTEMS

SEC. 201. [15 U.S.C. 5621] GENERAL LICENSING AUTHORITY.

(a) **LICENSING AUTHORITY OF SECRETARY.**—(1) In consultation with other appropriate United States Government agencies, the Secretary is authorized to license private sector parties to operate private remote sensing space systems for such period as the Secretary may specify and in accordance with the provisions of this title.

(2) In the case of a private space system that is used for remote sensing and other purposes, the authority of the Secretary under this title shall be limited only to the remote sensing operations of such space system.

(b) **COMPLIANCE WITH THE LAW, REGULATIONS, INTERNATIONAL OBLIGATIONS, AND NATIONAL SECURITY.**—(1) No license shall be granted by the Secretary unless the Secretary determines in writing that the applicant will comply with the requirements of this Act, any regulations issued pursuant to this Act, and any applicable international obligations and national security concerns of the United States.

(2) The Secretary, within 6 months after the date of the enactment of the Commercial Space Act of 1998, shall publish in the Federal Register a complete and specific list of all information required to comprise a complete application for a license under this title. An application shall be considered complete when the applicant has provided all information required by the list most recently published in the Federal Register before the date the application was first submitted. Unless the Secretary has, within 30 days after receipt of an application, notified the applicant of information necessary to complete an application, the Secretary may not deny the application on the basis of the absence of any such information.

(c) **DEADLINE FOR ACTION ON APPLICATION.**—The Secretary shall review any application and make a determination thereon within 120 days of the receipt of such application. If final action has not occurred within such time, the Secretary shall inform the applicant of any pending issues and of actions required to resolve them.

(d) **IMPROPER BASIS FOR DENIAL.**—The Secretary shall not deny such license in order to protect any existing licensee from competition.

(e) **REQUIREMENT TO PROVIDE UNENHANCED DATA.**—(1) The Secretary, in consultation with other appropriate United States Government agencies and pursuant to paragraph (2), shall designate in a license issued pursuant to this title any unenhanced data required to be provided by the licensee under section 202(b)(3).

(2) The Secretary shall make a designation under paragraph (1) after determining that—

(A) such data are generated by a system for which all or a substantial part of the development, fabrication, launch, or operations costs have been or will be directly funded by the United States Government; or

(B) it is in the interest of the United States to require such data to be provided by the licensee consistent with section 202(b)(3), after considering the impact on the licensee and the importance of promoting widespread access to remote sensing data from United States and foreign systems.

(3) A designation made by the Secretary under paragraph (1) shall not be inconsistent with any contract or other arrangement entered into between a United States Government agency and the licensee.

SEC. 202. [15 U.S.C. 5622] CONDITIONS FOR OPERATION.

(a) **LICENSE REQUIRED FOR OPERATION.**—No person who is subject to the jurisdiction or control of the United States may, directly or through any subsidiary or affiliate, operate any private remote sensing space system without a license pursuant to section 201.

(b) **LICENSING REQUIREMENTS.**—Any license issued pursuant to this title shall specify that the licensee shall comply with all of the requirements of this Act and shall—

(1) operate the system in such manner as to preserve the national security of the United States and to observe the international obligations of the United States in accordance with section 506;

(2) make available to the government of any country (including the United States) unenhanced data collected by the system concerning the territory under the jurisdiction of such government as soon as such data are available and on reasonable terms and conditions;

(3) make unenhanced data designated by the Secretary in the license pursuant to section 201(e) available in accordance with section 501;

(4) upon termination of operations under the license, make disposition of any satellites in space in a manner satisfactory to the President;

(5) furnish the Secretary with complete orbit and data collection characteristics of the system, and inform the Secretary immediately of any deviation; and

(6) notify the Secretary of any significant or substantial agreement the licensee intends to enter with a foreign nation, entity, or consortium involving foreign nations or entities.

(c) **ADDITIONAL LICENSING REQUIREMENTS FOR LANDSAT 6 CONTRACTOR.**—In addition to the requirements of paragraph (b), any license issued pursuant to this title to the Landsat 6 contractor shall specify that the Landsat 6 contractor shall—

(1) notify the Secretary of any value added activities (as defined by the Secretary by regulation) that will be conducted by the Landsat 6 contractor or by a subsidiary or affiliate; and

(2) if such activities are to be conducted, provide the Secretary with a plan for compliance with section 501 of this Act.

SEC. 203. [15 U.S.C. 5623] ADMINISTRATIVE AUTHORITY OF THE SECRETARY.

(a) **FUNCTIONS.**—In order to carry out the responsibilities specified in this title, the Secretary may—

(1) grant, condition, or transfer licenses under this Act;

(2) seek an order of injunction or similar judicial determination from a United States District Court with personal jurisdiction over the licensee to terminate, modify, or suspend licenses under this title and to terminate licensed operations on an immediate basis, if the Secretary determines that the licensee has substantially failed to comply with any provisions of this Act, with any terms, conditions, or restrictions of such license, or with any international obligations or national security concerns of the United States.

(3) provide penalties for noncompliance with the requirements of licenses or regulations issued under this title, including civil penalties not to exceed \$10,000 (each day of operation in violation of such licenses or regulations constituting a separate violation);

(4) compromise, modify, or remit any such civil penalty;

(5) issue subpoenas for any materials, documents, or records, or for the attendance and testimony of witnesses for the purpose of conducting a hearing under this section;

(6) seize any object, record, or report pursuant to a warrant from a magistrate based on a showing of probable cause to believe that such object, record, or report was used, is being used, or is likely to be used in violation of this Act or the requirements of a license or regulation issued thereunder; and

(7) make investigations and inquiries and administer to or take from any person an oath, affirmation, or affidavit concerning any matter relating to the enforcement of this Act.

(b) **REVIEW OF AGENCY ACTION.**—Any applicant or licensee who makes a timely request for review of an adverse action pursuant to subsection (a)(1), (a)(3), (a)(5), or (a)(6) shall be entitled to adjudication by the Secretary on the record after an opportunity for any agency hearing with respect to such adverse action. Any final action by the Secretary under this subsection shall be subject to judicial review under chapter 7 of title 5, United States Code.

SEC. 204. [15 U.S.C. 5624] REGULATORY AUTHORITY OF THE SECRETARY.

The Secretary may issue regulations to carry out this title. Such regulations shall be promulgated only after public notice and comment in accordance with the provisions of section 553 of title 5, United States Code.

SEC. 205. [15 U.S.C. 5625] AGENCY ACTIVITIES.

(a) **LICENSE APPLICATION AND ISSUANCE.**—A private sector party may apply for a license to operate a private remote sensing space system which utilizes, on a space-available basis, a civilian United States Government satellite or vehicle as a platform for such system. The Secretary, pursuant to this title, may license such system if it meets all conditions of this title and—

(1) the system operator agrees to reimburse the Government in a timely manner for all related costs incurred with respect to such utilization, including a reasonable and proportionate share of fixed, platform, data transmission, and launch costs; and

(2) such utilization would not interfere with or otherwise compromise intended civilian Government missions, as determined by the agency responsible for such civilian platform.

(b) **ASSISTANCE.**—The Secretary may offer assistance to private sector parties in finding appropriate opportunities for such utilization.

(c) **AGREEMENTS.**—To the extent provided in advance by appropriation Acts, any United States Government agency may enter into agreements for such utilization if such agreements are consistent with such agency's mission and statutory authority, and if such remote sensing space system is licensed by the Secretary before commencing operation.

(d) **APPLICABILITY.**—This section does not apply to activities carried out under title III.

(e) **EFFECT ON FCC AUTHORITY.**—Nothing in this title shall affect the authority of the Federal Communications Commission pursuant to the Communications Act of 1934 (47 U.S.C. 151 et seq.).

TITLE III—RESEARCH, DEVELOPMENT, AND DEMONSTRATION**SEC. 301. [15 U.S.C. 5631] CONTINUED FEDERAL RESEARCH AND DEVELOPMENT.**

(a) **ROLES OF NASA AND DEPARTMENT OF DEFENSE.**—(1) The Administrator and the Secretary of Defense are directed to continue and to enhance programs of remote sensing research and development.

(2) The Administrator is authorized and encouraged to—

(A) conduct experimental space remote sensing programs (including applications demonstration programs and basic research at universities);

(B) develop remote sensing technologies and techniques, including those needed for monitoring the Earth and its environment; and

(C) conduct such research and development in cooperation with other United States Government agencies and with public and private research entities (including private industry, uni-

versities, non-profit organizations, State and local governments, foreign governments, and international organizations) and to enter into arrangements (including joint ventures) which will foster such cooperation.

(b) ROLES OF DEPARTMENT OF AGRICULTURE AND DEPARTMENT OF INTERIOR.—

(1) In order to enhance the ability of the United States to manage and utilize its renewable and nonrenewable resources, the Secretary of Agriculture and the Secretary of the Interior are authorized and encouraged to conduct programs of research and development in the applications of remote sensing using funds appropriated for such purposes.

(2) Such programs may include basic research at universities, demonstrations of applications, and cooperative activities involving other Government agencies, private sector parties, and foreign and international organizations.

(c) ROLE OF OTHER FEDERAL AGENCIES.—Other United States Government agencies are authorized and encouraged to conduct research and development on the use of remote sensing in the fulfillment of their authorized missions, using funds appropriated for such purposes.

SEC. 302. [15 U.S.C. 5632] AVAILABILITY OF FEDERALLY GATHERED UNENHANCED DATA.

(a) GENERAL RULE.—All unenhanced land remote sensing data gathered and owned by the United States Government, including unenhanced data gathered under the technology demonstration program carried out pursuant to section 303, shall be made available to users in a timely fashion.

(b) PROTECTION FOR COMMERCIAL DATA DISTRIBUTOR.—The President shall seek to ensure that unenhanced data gathered under the technology demonstration program carried out pursuant to section 303 shall, to the extent practicable, be made available on terms that would not adversely effect the commercial market for unenhanced data gathered by the Landsat 6 spacecraft.

SEC. 303. [15 U.S.C. 5633] TECHNOLOGY DEMONSTRATION PROGRAM.

(a) ESTABLISHMENT.—As a fundamental component of a national land remote sensing strategy, the President shall establish, through appropriate United States Government agencies, a technology demonstration program. The goals of such programs shall be to—

(1) seek to launch advanced land remote sensing system components within 5 years after the date of the enactment of this Act.

(2) demonstrate within such 5-year period advanced sensor capabilities suitable for use in the anticipated land remote sensing program; and

(3) demonstrate within such 5-year period an advanced land remote sensing system design that could be less expensive to procure and operate than the Landsat system projected to be in operation through the year 2000, and that therefore holds greater potential for private sector investment and control.

(b) EXECUTION OF PROGRAM.—In executing the technology demonstration program, the President shall seek to apply technologies associated with United States National Technical Means of intel-

ligence gathering, to the extent that such technologies are appropriate for the technology demonstration and can be declassified for such purposes without causing adverse harm to United States national security interests.

(c) BROAD APPLICATION.—To the greatest extent practicable, the technology demonstration program established under subsection (a) shall be designed to be responsive to the broad civilian, national security, commercial, and foreign policy needs of the United States.

(d) PRIVATE SECTOR FUNDING.—The technology demonstration program under this section may be carried out in part with private sector funding.

(e) LANDSAT PROGRAM MANAGEMENT COORDINATION.—The Landsat Program Management shall have a coordinating role in the technology demonstration program carried out under this section.

(f) REPORT TO CONGRESS.—The President shall assess the progress of the technology demonstration program under this section and, within 2 years after the date of enactment of this Act, submit a report to the Congress on such progress.

TITLE IV—ASSESSING OPTIONS FOR SUCCESSOR LAND REMOTE SENSING SYSTEM

SEC. 401. [15 U.S.C. 5641] ASSESSING OPTIONS FOR SUCCESSOR LAND REMOTE SENSING SYSTEM.

(a) ASSESSMENT.—Within 5 years after the date of the enactment of this Act, the Landsat Program Management, in consultation with representatives of appropriate United States Government agencies, shall assess and report to the Congress on the options for a successor land remote sensing system to Landsat 7. The report shall include a full assessment of the advantages and disadvantages of—

(1) private sector funding and management of a successor land remote sensing system;

(2) establishing an international consortium for the funding and management of a successor land remote sensing system;

(3) funding and management of a successor land remote sensing system by the United States Government; and

(4) a cooperative effort between the United States Government and the private sector for the funding and management of a successor land remote sensing system.

(b) GOALS.—In carrying out subsection (a), the Landsat Program Management shall consider the ability of each of the options to—

(1) encourage the development, launch, and operation of a land remote sensing system that adequately serves the civilian, national security, commercial, and foreign policy interests of the United States;

(2) encourage the development, launch, and operation of a land remote sensing system that maintains data continuity with the Landsat system; and

(3) incorporate system enhancements, including any such enhancements developed under the technology demonstration program under section 303, which may potentially yield a sys-

tem that is less expensive to build and operate, and more responsive to data users, than is the Landsat system projected to be in operation through the year 2000.

(c) PREFERENCE FOR PRIVATE SECTOR SYSTEM.—If a successor land remote sensing system to Landsat 7 can be funded and managed by the private sector while still achieving the goals stated in subsection (b) without jeopardizing the domestic, national security, and foreign policy interests of the United States, preference should be given to the development of such a system by the private sector without competition from the United States Government.

TITLE V—GENERAL PROVISIONS

SEC. 501. [15 U.S.C. 5651] NONDISCRIMINATORY DATA AVAILABILITY.

(a) GENERAL RULE.—Except as provided in subsection (b) of this section, any unenhanced data generated by the Landsat system or any other land remote sensing system funded and owned by the United States Government shall be made available to all users without preference, bias, or any other special arrangement (except on the basis of national security concerns pursuant to section 506) regarding delivery, format, pricing, or technical considerations which would favor one customer or class of customers over another.

(b) EXCEPTIONS.—Unenhanced data generated by the Landsat system or any other land remote sensing system funded and owned by the United States Government may be made available to the United States Government and its affiliated users at reduced prices, in accordance with this Act, on the condition that such unenhanced data are used solely for noncommercial purposes.

SEC. 502. [15 U.S.C. 5652] ARCHIVING OF DATA.

(a) PUBLIC INTEREST.—It is in the public interest for the United States Government to—

(1) maintain an archive of land remote sensing data for historical, scientific, and technical purposes, including long-term global environmental monitoring;

(2) control the content and scope of the archive; and

(3) assure the quality, integrity, and continuity of the archive.

(b) ARCHIVING PRACTICES.—The Secretary of the Interior, in consultation with the Landsat Program Management, shall provide for long-term storage, maintenance, and upgrading of a basic, global, land remote sensing data set (hereinafter referred to as the “basic data set”) and shall follow reasonable archival practices to assure proper storage and preservation of the basic data set and timely access for parties requesting data.

(c) DETERMINATION OF CONTENT OF BASIC DATA SET.—In determining the initial content of, or in upgrading, the basic data set, the Secretary of Interior shall—

(1) use as a baseline the data archived on the date of enactment of this Act;

(2) take into account future technical and scientific developments and needs, paying particular attention to the anticipated data requirements of global environmental change research;

(3) consult with and seek the advice of users and producers of remote sensing data and data products;

(4) consider the need for data which may be duplicative in terms of geographical coverage but which differ in terms of season, spectral bands, resolution, or other relevant factors;

(5) include, as the Secretary of the Interior considers appropriate, unenhanced data generated either by the Landsat system, pursuant to title I, or by licensees under title II;

(6) include, as the Secretary of the Interior considers appropriate, data collected by foreign ground stations or by foreign remote sensing space systems; and

(7) ensure that the content of the archive is developed in accordance with section 506.

(d) PUBLIC DOMAIN.—After the expiration of any exclusive right to sell, or after relinquishment of such right, the data provided to the National Satellite Land Remote Sensing Data Archive shall be in the public domain and shall be made available to requesting parties by the Secretary of the Interior at the cost of fulfilling user requests.

SEC. 503. [15 U.S.C. 5653] NONREPRODUCTION.

Unenhanced data distributed by any licensee under title II of this Act may be sold on the condition that such data will not be reproduced or disseminated by the purchaser for commercial purposes.

SEC. 504. [15 U.S.C. 5654] REIMBURSEMENT FOR ASSISTANCE.

The Administrator, the Secretary of Defense, and the heads of other United States Government agencies may provide assistance to land remote sensing system operators under the provisions of this Act. Substantial assistance shall be reimbursed by the operator, except as otherwise provided by law.

SEC. 505. [15 U.S.C. 5655] ACQUISITION OF EQUIPMENT.

The Landsat Program Management may, by means of a competitive process, allow a licensee under title II or any other private party to buy, lease, or otherwise acquire the use of equipment from the Landsat system, when such equipment is no longer needed for the operation of such system or for the sale of data from such system. Officials of other United States Government civilian agencies are authorized and encouraged to cooperate with the Secretary in carrying out this section.

SEC. 506. [15 U.S.C. 5656] RADIO FREQUENCY ALLOCATION.

(a) APPLICATION TO FEDERAL COMMUNICATIONS COMMISSION.—To the extent required by the Communications Act of 1934 (47 U.S.C. 151 et seq.), an application shall be filed with the Federal Communications Commission for any radio facilities involved with commercial remote sensing space systems licensed under title II.

(b) DEADLINE FOR FCC ACTION.—It is the intent of Congress that the Federal Communications Commission complete the radio licensing process under the Communications Act of 1934 (47 U.S.C. 151 et seq.), upon the application of any private sector party or consortium operator of any commercial land remote sensing space system subject to this Act, within 120 days of the receipt of an application for such licensing. If final action has not occurred within 120 days of the receipt of such an application, the Federal Communications Commission shall inform the applicant of any pending issues and of actions required to resolve them.

(c) DEVELOPMENT AND CONSTRUCTION OF UNITED STATES SYSTEMS.—Authority shall not be required from the Federal Communications Commission for the development and construction of any United States land remote sensing space system (or component thereof), other than radio transmitting facilities or components, while any licensing determination is being made.

(d) CONSISTENCY WITH INTERNATIONAL OBLIGATIONS AND PUBLIC INTEREST.—Frequency allocations made pursuant to this section by the Federal Communications Commission shall be consistent with international obligations and with the public interest.

SEC. 507. [15 U.S.C. 5657] CONSULTATION.

(a) CONSULTATION WITH SECRETARY OF DEFENSE.—The Secretary and the Landsat Program Management shall consult with the Secretary of Defense on all matters under this Act affecting national security. The Secretary of Defense shall be responsible for determining those conditions, consistent with this Act, necessary to meet national security concerns of the United States and for notifying the Secretary and the Landsat Program Management promptly of such conditions.

(b) CONSULTATION WITH SECRETARY OF STATE.—(1) The Secretary and the Landsat Program Management shall consult with the Secretary of State on all matters under this Act affecting international obligations. The Secretary of State shall be responsible for determining those conditions, consistent with this Act, necessary to meet international obligations and policies of the United States and for notifying promptly the Secretary and the Landsat Program Management of such conditions.

(2) Appropriate United States Government agencies are authorized and encouraged to provide remote sensing data, technology, and training to developing nations as a component of programs of international aid.

(3) The Secretary of State shall promptly report to the Secretary and Landsat Program Management any instances outside the United States of discriminatory distribution of Landsat data.

(c) STATUS REPORT.—The Landsat Program Management shall, as often as necessary, provide to the Congress complete and updated information about the status of ongoing operations of the Landsat system, including timely notification of decisions made with respect to the Landsat system in order to meet national security concerns and international obligations and policies of the United States Government.

(d) REIMBURSEMENTS.—If, as a result of technical modifications imposed on a licensee under title II on the basis of national security concerns, the Secretary, in consultation with the Secretary of Defense or with other Federal agencies, determines that additional costs will be incurred by the licensee, or that past development costs (including the cost of capital) will not be recovered by the licensee, the Secretary may require the agency or agencies requesting such technical modifications to reimburse the licensee for such additional or development costs, but not for anticipated profits. Reimbursements may cover costs associated with required changes in system performance, but not costs ordinarily associated with doing business abroad.

SEC. 508. [15 U.S.C. 5658] ENFORCEMENT.

(a) **IN GENERAL.**—In order to ensure that unenhanced data from the Landsat system received solely for noncommercial purposes are not used for any commercial purpose, the Secretary (in collaboration with private sector entities responsible for the marketing and distribution of unenhanced data generated by the Landsat system) shall develop and implement a system for enforcing this prohibition, in the event that unenhanced data from the Landsat system are made available for noncommercial purposes at a different price than such data are made available for other purposes.

(b) **AUTHORITY OF SECRETARY.**—Subject to subsection (d), the Secretary may impose any of the enforcement mechanisms described in subsection (c) against a person who—

(1) receives unenhanced data from the Landsat system under this Act solely for noncommercial purposes (and at a different price than the price at which such data are made available for other purposes); and

(2) uses such data for other than noncommercial purposes.

(c) **ENFORCEMENT MECHANISMS.**—Enforcement mechanisms referred to in subsection (b) may include civil penalties of not more than \$10,000 (per day per violation), denial of further unenhanced data purchasing privileges, and any other penalties or restrictions the Secretary considers necessary to ensure, to the greatest extent practicable, that unenhanced data provided for noncommercial purposes are not used to unfairly compete in the commercial market against private sector entities not eligible for data at the cost of fulfilling user requests.

(d) **PROCEDURES AND REGULATIONS.**—The Secretary shall issue any regulations necessary to carry out this section and shall establish standards and procedures governing the imposition of enforcement mechanisms under subsection (b). The standards and procedures shall include a procedure for potentially aggrieved parties to file formal protests with the Secretary alleging instances where such unenhanced data has been, or is being, used for commercial purposes in violation of the terms of receipt of such data. The Secretary shall promptly act to investigate any such protest, and shall report annually to the Congress on instances of such violations.

TITLE VI—PROHIBITION OF COMMERCIALIZATION OF WEATHER SATELLITES**SEC. 601. [15 U.S.C. 5671] PROHIBITION.**

Neither the President nor any other official of the Government shall make any effort to lease, sell, or transfer to the private sector, or commercialize, any portion of the weather satellite systems operated by the Department of Commerce or any successor agency.

SEC. 602. [15 U.S.C. 5672] FUTURE CONSIDERATIONS.

Regardless of any change in circumstances subsequent to the enactment of this Act, even if such change makes it appear to be in the national interest to commercialize weather satellites, neither the President nor any official shall take any action prohibited by section 601 unless this title has first been repealed.

LAUNCH SERVICES PURCHASE ACT OF 1990¹

TITLE II—LAUNCH SERVICES PURCHASE

SEC. 201. [42 U.S.C. 2451 nt] SHORT TITLE.

This title may be cited as the “Launch Services Purchase Act of 1990”.

[Section 202 repealed by section 203(1) of Public Law 105–303.]

SEC. 203. [42 U.S.C. 2465c] DEFINITIONS.

For the purposes of this title—

(1) the term “launch vehicle” means any vehicle constructed for the purpose of operating in, or placing a payload in, outer space; and

(2) the term “payload” means an object which a person undertakes to place in outer space by means of a launch vehicle, and includes subcomponents of the launch vehicle specifically designed or adapted for that object.

[Sections 204 and 205 repealed by section 203(3) of Public Law 105–303.]

SEC. 206. [42 U.S.C. 2465f] OTHER ACTIVITIES OF THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.

Commercial payloads may not be accepted for launch as primary payloads on the space shuttle unless the Administrator of the National Aeronautics and Space Administration determines that—

(1) the payload requires the unique capabilities of the space shuttle; or

(2) launching of the payload on the space shuttle is important for either national security or foreign policy purposes.

¹This title was enacted as title II of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1991 (Public Law 101–611).

NATIONAL AERONAUTICS AND SPACE ACT OF 1958

AN ACT To provide for research into problems of flight within and outside the earth's atmosphere, and for other purposes.

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

TITLE I—SHORT TITLE, DECLARATION OF POLICY, AND DEFINITIONS

SHORT TITLE

SEC. 101. This Act may be cited as the “National Aeronautics and Space Act of 1958”.

(42 U.S.C. 2451 Note)

DECLARATION OF POLICY AND PURPOSE

SEC. 102. (a) The Congress hereby declares that it is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all mankind.

(b) The Congress declares that the general welfare and security of the United States require that adequate provision be made for aeronautical and space activities. The Congress further declares that such activities shall be the responsibility of, and shall be directed by, a civilian agency exercising control over aeronautical and space activities sponsored by the United States, except that activities peculiar to or primarily associated with the development of weapons systems, military operations, or the defense of the United States (including the research and development necessary to make effective provision for the defense of the United States) shall be the responsibility of, and shall be directed by, the Department of Defense; and that determination as to which such agency has responsibility for and direction of any such activity shall be made by the President in conformity with section 201 (e).

(c) The Congress declares that the general welfare of the United States requires that the National Aeronautics and Space Administration (as established by title II of this Act) seek and encourage, to the maximum extent possible, the fullest commercial use of space.

(d) The aeronautical and space activities of the United States shall be conducted so as to contribute materially to one or more of the following objectives:

(1) The expansion of human knowledge of the Earth and of phenomena in the atmosphere and space;

(2) The improvement of the usefulness, performance, speed, safety, and efficiency of aeronautical and space vehicles;

(3) The development and operation of vehicles capable of carrying instruments, equipment, supplies, and living organisms through space;

(4) The establishment of long-range studies of the potential benefits to be gained from, the opportunities for, and the problems involved in the utilization of aeronautical and space activities for peaceful and scientific purposes;

(5) The preservation of the role of the United States as a leader in aeronautical and space science and technology and in the application thereof to the conduct of peaceful activities within and outside the atmosphere;

(6) The making available to agencies directly concerned with national defense of discoveries that have military value or significance, and the furnishing by such agencies, to the civilian agency established to direct and control nonmilitary aeronautical and space activities, of information as to discoveries which have value or significance to that agency;

(7) Cooperation by the United States with other nations and groups of nations in work done pursuant to this Act and in the peaceful application of the results thereof;

(8) The most effective utilization of the scientific and engineering resources of the United States, with close cooperation among all interested agencies of the United States in order to avoid unnecessary duplication of effort, facilities, and equipment; and

(9)¹ The preservation of the United States preeminent position in aeronautics and space through research and technology development related to associated manufacturing processes.

(e) The Congress declares that the general welfare of the United States requires that the unique competence in scientific and engineering systems of the National Aeronautics and Space Administration also be directed toward ground propulsion systems research and development. Such development shall be conducted so as to contribute to the objectives of developing energy- and petroleum-conserving ground propulsion systems, and of minimizing the environmental degradation caused by such systems.

(f) The Congress declares that the general welfare of the United States requires that the unique competence of the National Aeronautics and Space Administration in science and engineering systems be directed to assisting in bioengineering research, development, and demonstration programs designed to alleviate and minimize the effects of disability.

(g) It is the purpose of this Act to carry out and effectuate the policies declared in subsections (a), (b), (c), (d), (e), and (f).

(42 U.S.C. 2451)

DEFINITIONS

SEC. 103. As used in this Act—

¹ Section 214 of Pub.L. 100-685, 102 Stat. 4093, stated the amendment inserting a paragraph (9) as an amendment to section 102(c). The amendment probably should have been made to section 102(d), as shown here.

(1) the term "aeronautical and space activities" means (A) research into, and the solution of, problems of flight within and outside the earth's atmosphere, (B) the development, construction, testing, and operation for research purposes of aeronautical and space vehicles, (C) the operation of a space transportation system including the Space Shuttle, upper stages, space platforms, and related equipment, and (D) such other activities as may be required for the exploration of space; and

(2) the term "aeronautical and space vehicles" means aircraft, missiles, satellites, and other space vehicles, manned and unmanned, together with related equipment, devices, components, and parts.

(42 U.S.C. 2452)

TITLE II—COORDINATION OF AERONAUTICAL AND SPACE ACTIVITIES

NATIONAL AERONAUTICS AND SPACE COUNCIL¹

SEC. 201. (a) There is hereby established, in the Executive Office of the President, the National Aeronautics and Space Council (hereinafter called the "Council") which shall be composed of—

(1) the Vice President, who shall be Chairman of the Council;

(2) the Secretary of State;

(3) the Secretary of Defense;

(4) the Secretary of Transportation;

(5) the Administrator of the National Aeronautics and Space Administration; and

(6) the Chairman of the Atomic Energy Commission.

(b) The President shall from time to time designate one of the members of the Council to preside over meetings of the Council during the absence, disability, or unavailability of the Chairman.

(c) Each member of the Council may designate another officer of his department or agency to serve on the Council as his alternate in his unavoidable absence.

(d) Each alternate member designated under subsection (c) of this section shall be designated to serve as such by and with the advice and consent of the Senate unless at the time of his designation he holds an office in the Federal Government to which he was appointed by and with the advice and consent of the Senate.

(e) It shall be the function of the Council to advise and assist the President, as he may request, with respect to the performance of functions in the aeronautics and space field, including the following functions:

(1) survey all significant aeronautical and space activities, including the policies, plans, programs, and accomplishments of all departments and agencies of the United States engaged in such activities;

(2) develop a comprehensive program of aeronautical and space activities to be conducted by departments and agencies of the United States;

¹The National Aeronautics and Space Council and its functions were abolished by section 3(a)(4) of Reorganization Plan No. 1 of 1973 (87 Stat. 1089).

(3) designate and fix responsibility for the direction of major aeronautical and space activities;

(4) provide for effective cooperation among all departments and agencies of the United States engaged in aeronautical and space activities, and specify, in any case in which primary responsibility for any category of aeronautical and space activities has been assigned to any department or agency, which of those activities may be carried on concurrently by other departments or agencies; and

(5) resolve differences arising among departments and agencies of the United States with respect to aeronautical and space activities under this Act, including differences as to whether a particular project is an aeronautical and space activity.

(f) The Council may employ a staff to be headed by a civilian executive secretary who shall be appointed by the President by and with the advice and consent of the Senate. The executive secretary, subject to the direction of the Council, is authorized to appoint and fix the compensation of such personnel, including not more than seven persons who may be appointed without regard to the civil service laws or the Classification Act of 1949 and compensated at not to exceed the highest rate of grade 18 of the General Schedule of the Classification Act of 1949, as amended, as may be necessary to perform such duties as may be prescribed by the Council in connection with the performance of its functions. Each appointment under this subsection shall be subject to the same security requirements as those established for personnel of the National Aeronautics and Space Administration appointed under section 203(b)(2) of this Act. Other provisions of law or regulations relating to Government employment (except those relating to pay and retirement) shall apply to council employees reporting directly to the chairman to the extent that such provisions are applicable to employees in the office of the Vice President.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

SEC. 202. (a) There is hereby established the National Aeronautics and Space Administration (hereinafter called the "Administration"). The Administration shall be headed by an Administrator, who shall be appointed from civil life by the President by and with the advice and consent of the Senate. Under the supervision and direction of the President, the Administrator shall be responsible for the exercise of all powers and the discharge of all duties of the Administration, and shall have authority and control over all personnel and activities thereof.

(b) There shall be in the Administration a Deputy Administrator, who shall be appointed from civilian life by the President by and with the advice and consent of the Senate, and shall perform such duties and exercise such powers as the Administrator may prescribe. The Deputy Administrator shall act for, and exercise the powers of, the Administrator during his absence or disability.

(c) The Administrator and the Deputy Administrator shall not engage in any other business, vocation, or employment while serving as such.

(42 U.S.C. 2472)

FUNCTIONS OF THE ADMINISTRATION

SEC. 203. (a) The Administration, in order to carry out the purpose of this Act, shall—

(1) plan, direct, and conduct aeronautical and space activities;

(2) arrange for participation by the scientific community in planning scientific measurements and observations to be made through use of aeronautical and space vehicles, and conduct or arrange for the conduct of such measurements and observations;

(3) provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof;

(4) seek and encourage, to the maximum extent possible, the fullest commercial use of space; and

(5) encourage and provide for Federal Government use of commercially provided space services and hardware, consistent with the requirements of the Federal Government.

(b)(1) The Administration shall, to the extent of appropriated funds, initiate, support, and carry out such research, development, demonstration, and other related activities in ground propulsion technologies as are provided for in sections 4 through 10 of the Electric and Hybrid Vehicle Research, Development, and Demonstration Act of 1976.

(2) The Administration shall initiate, support, and carry out such research, development, demonstrations, and other related activities in solar heating and cooling technologies (to the extent that funds are appropriated therefor) as are provided for in sections 5, 6, and 9 of the Solar Heating and Cooling Demonstration Act of 1974.

(c) In the performance of its functions the Administration is authorized—

(1) to make, promulgate, issue, rescind, and amend rules and regulations governing the manner of its operations and the exercise of the powers vested in it by law;

(2) to appoint and fix the compensation of such officers and employees as may be necessary to carry out such functions. Such officers and employees shall be appointed in accordance with the civil-service laws and their compensation fixed in accordance with the Classification Act of 1949, except that (A) to the extent the Administrator deems such action necessary to the discharge of his responsibilities, he may appoint not more than four hundred and twenty-five of the scientific, engineering, and administrative personnel of the Administration without regard to such laws, and may fix the compensation of such personnel not in excess of the rate of basic pay payable for level III of the Executive Schedule, and (B) to the extent the Administrator deems such action necessary to recruit specially qualified scientific and engineering talent, he may establish

the entrance grade for scientific and engineering personnel without previous service in the Federal Government at a level up to two grades higher than the grade provided for such personnel under the General Schedule established by the Classification Act of 1949, and fix their compensation accordingly;

(3) to acquire (by purchase, lease, condemnation, or otherwise), construct, improve, repair, operate, and maintain laboratories, research and testing sites and facilities, aeronautical and space vehicles, quarters and related accommodations for employees and dependents of employees of the Administration, and such other real and personal property (including patents), or any interest therein, as the Administration deems necessary within and outside the continental United States; to acquire by lease or otherwise, through the Administrator of General Services, buildings or parts of buildings in the District of Columbia for the use of the Administration for a period not to exceed ten years without regard to the Act of March 3, 1877 (40 U.S.C. 34); to lease to others such real and personal property; to sell and otherwise dispose of real and personal property (including patents and rights thereunder) in accordance with the provisions of the Federal Property and Administrative Services Act of 1949, as amended (40 U.S.C. 471 et seq.); and to provide by contract or otherwise for cafeterias and other necessary facilities for the welfare of employees of the Administration at its installations and purchase and maintain equipment therefor;

(4) to accept unconditional gifts or donations of services, money, or property, real, personal, or mixed, tangible or intangible;

(5) without regard to section 3648 of the Revised Statutes, as amended (31 U.S.C. 529), to enter into and perform such contracts, leases, cooperative agreements, or other transactions as may be necessary in the conduct of its work and on such terms as it may deem appropriate, with any agency or instrumentality of the United States, or with any State, Territory, or possession, or with any political subdivision thereof, or with any person, firm, association, corporation, or educational institution. To the maximum extent practicable and consistent with the accomplishment of the purpose of this Act, such contracts, leases, agreements, and other transactions shall be allocated by the Administrator in a manner which will enable small-business concerns to participate equitably and proportionately in the conduct of the work of the Administration;

(6) to use, with their consent, the services, equipment, personnel, and facilities of Federal and other agencies with or without reimbursement, and on a similar basis to cooperate with other public and private agencies and instrumentalities in the use of services, equipment, and facilities. Each department and agency of the Federal Government shall cooperate fully with the Administration in making its services, equipment, personnel, and facilities available to the Administration, and any such department or agency is authorized, notwithstanding any other provision of law, to transfer to or to receive from the Administration, without reimbursement, aeronautical and space vehicles, and supplies and equipment other than administrative supplies or equipment;

(7) to appoint such advisory committees as may be appropriate for purposes of consultation and advice to the Administration in the performance of its functions;

(8) to establish within the Administration such offices and procedures as may be appropriate to provide for the greatest possible coordination of its activities under this Act with related scientific and other activities being carried on by other public and private agencies and organizations;

(9) to obtain services as authorized by section 3109 of title 5, United States Code, but at rates for individuals not to exceed the per diem rate equivalent to the rate for GS-18;

(10) when determined by the Administrator to be necessary, and subject to such security investigations as he may determine to be appropriate, to employ aliens without regard to statutory provisions prohibiting payment of compensation to aliens;

(11) to provide by concession, without regard to section 321 of the Act of June 30, 1932 (47 Stat. 412; 40 U.S.C. 303b), on such terms as the Administrator may deem to be appropriate and to be necessary to protect the concessioner against loss of his investment in property (but not anticipated profits) resulting from the Administration's discretionary acts and decisions, for the construction, maintenance, and operation of all manner of facilities and equipment for visitors to the several installations of the Administration and, in connection therewith, to provide services incident to the dissemination of information concerning its activities to such visitors, without charge or with a reasonable charge therefor (with this authority being in addition to any other authority which the Administration may have to provide facilities, equipment, and services for visitors to its installations). A concession agreement under this paragraph may be negotiated with any qualified proposer following due consideration of all proposals received after reasonable public notice of the intention to contract. The concessioner shall be afforded a reasonable opportunity to make a profit commensurate with the capital invested and the obligations assumed, and the consideration paid by him for the concession shall be based on the probable value of such opportunity and not on maximizing revenue to the United States. Each concession agreement shall specify the manner in which the concessioner's records are to be maintained, and shall provide for access to any such records by the Administration and the Comptroller General of the United States for a period of five years after the close of the business year to which such records relate. A concessioner may be accorded a possessory interest, consisting of all incidents of ownership except legal title (which shall vest in the United States), in any structure, fixture, or improvement he constructs or locates upon land owned by the United States; and, with the approval of the Administration, such possessory interest may be assigned, transferred, encumbered, or relinquished by him, and, unless otherwise provided by contract, shall not be extinguished by the expiration or other termination of the concession and may not be taken for public use without just compensation;

(12) with the approval of the President, to enter into cooperative agreements under which members of the Army, Navy, Air Force, and Marine Corps may be detailed by the appropriate Secretary for services in the performance of functions under this Act to the same extent as that to which they might be lawfully assigned in the Department of Defense;

(13)(A) to consider, ascertain, adjust, determine, settle, and pay, on behalf of the United States, in full satisfaction thereof, any claim for \$25,000 or less against the United States for bodily injury, death, or damage to or loss of real or personal property resulting from the conduct of the Administration's functions as specified in subsection (a) of this section, where such claim is presented to the Administration in writing within two years after the accident or incident out of which the claim arises; and

(B) if the Administration considers that a claim in excess of \$25,000 is meritorious and would otherwise be covered by this paragraph, to report the facts and circumstances thereof to the Congress for its consideration; and ¹

(42 U.S.C. 2473)

CIVILIAN-MILITARY LIAISON COMMITTEE

SEC. 204. (a) There shall be a Civilian-Military Liaison Committee consisting of—

(1) a Chairman, who shall be the head thereof and who shall be appointed by the President, shall serve at the pleasure of the President;

(2) one or more representatives from the Department of Defense, and one or more representatives from each of the Departments of the Army, Navy, and Air Force, to be assigned by the Secretary of Defense to serve on the Committee without additional compensation; and

(3) representatives from the Administration, to be assigned by the Administrator to serve on the Committee without additional compensation, equal in number to the number of representatives assigned to serve on the Committee under paragraph (2).

(b) The Administration and the Department of Defense, through the Liaison Committee, shall advise and consult with each other on all matters within their respective jurisdictions relating to aeronautical and space activities and shall keep each other fully and currently informed with respect to such activities.

(c) If the Secretary of Defense concludes that any request, action, proposed action, or failure to act on the part of the Administrator is adverse to the responsibilities of the Department of Defense, or the Administrator concludes that any request, action, proposed action, or failure to act on the part of the Department of Defense is adverse to the responsibilities of the Administration, and the Administrator and the Secretary of Defense are unable to reach an agreement with respect thereto, either the Administrator or the

¹P.L. 87-584 added “; and” at the end of paragraph (13) and added a new paragraph (14). P.L. 91-646, sec. 220(a)(2) (84 Stat. 1903) repealed paragraph (14) without making a conforming amendment to paragraph (13). Probably should read “for its consideration.”

Secretary of Defense may refer the matter to the President for his decision (which shall be final) as provided in section 201 (e).

(d) Notwithstanding the provisions of any other law, any active or retired officer of the Army, Navy, or Air Force may serve as Chairman of the Liaison Committee without prejudice to his active or retired status as such officer. Any such active officer serving as Chairman of the Liaison Committee shall receive, in addition to his pay and allowances, including special and incentive pays, an amount equal to the difference between such pay and allowances, including special and incentive pays, and the compensation fixed by subsection (a)(1) for such Chairman. Any such retired officer serving as Chairman of the Liaison Committee shall receive the compensation fixed by subsection (a)(1) for such Chairman and his retired pay, subject to section 201 of the Dual Compensation Act.

INTERNATIONAL COOPERATION

SEC. 205. The Administration, under the foreign policy guidance of the President, may engage in a program of international cooperation in work done pursuant to this Act, and in the peaceful application of the results thereof, pursuant to agreements made by the President with the advice and consent of the Senate.

(42 U.S.C. 2475)

REPORTS TO THE CONGRESS

SEC. 206. (a) The President shall transmit to the Congress in May of each year a report, which shall include (1) a comprehensive description of the programed activities and the accomplishments of all agencies of the United States in the field of aeronautics and space activities during the preceding fiscal year, and (2) an evaluation of such activities and accomplishments in terms of the attainment of, or the failure to attain, the objectives described in section 102(c)¹ of this Act.

(b) Any report made under this section shall contain such recommendations for additional legislation as the Administrator or the President may consider necessary or desirable for the attainment of the objectives described in section 102(c)¹ of this Act.

(c) No information which has been classified for reasons of national security shall be included in any report made under this section, unless such information has been declassified by, or pursuant to authorization given by, the President.

(42 U.S.C. 2476)

DISPOSAL OF EXCESS LAND

SEC. 207. Notwithstanding the provisions of this or any other law, the Administration may not report to a disposal agency as excess to the needs of the Administration any land having an estimated value in excess of \$50,000 which is owned by the United States and under the jurisdiction and control of the Administration, unless (A) a period of thirty days has passed after the receipt by the Speaker and the Committee on Science, Space, and Technology

¹The references made to "section 102(c)" contained in subsections (a) and (b) of section 206 should be made to "section 102(d)".

of the House of Representatives¹ and the President and the Committee on Commerce, Science, and Transportation of the Senate of a report by the Administrator or his designee containing a full and complete statement of the action proposed to be taken and the facts and circumstances relied upon in support of such action, or (B) each such committee before the expiration of such period has transmitted to the Administrator written notice to the effect that such committee has no objection to the proposed action.

(42 U.S.C. 2476a)

DONATIONS FOR SPACE SHUTTLE ORBITER

SEC. 208. (a) The Administrator may accept gifts and donations of services, money, and real, personal, tangible, and intangible property, and use such gifts and donations for the construction of a space shuttle orbiter.

(b)(1) The authority of the Administrator to accept gifts or donations pursuant to subsection (a) of this section shall terminate five years after the date of the enactment of this section.

(2) All gifts and donations accepted by the Administrator pursuant to subsection (a) of this section which are not needed for construction of a space shuttle orbiter shall be used by the Administrator for an appropriate purpose—

(A) in tribute to the dedicated crew of the space shuttle Challenger; and

(B) in furtherance of the exploration of space.

(c) The name of a space shuttle orbiter constructed in whole or in part with gifts or donations whose acceptance and use are authorized by subsection (a) of this section shall be selected by the Administrator from among suggestions submitted by students in elementary and secondary schools.

(42 U.S.C. 2476b)

TITLE III—MISCELLANEOUS

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS

SEC. 301. (a) The National Advisory Committee for Aeronautics, on the effective date of this section, shall cease to exist. On such date all functions, powers, duties, and obligations, and all real and personal property, personnel (other than members of the Committee), funds, and records of that organization, shall be transferred to the Administration.

(42 U.S.C. 2472 nt)

* * * * *

TRANSFER OF RELATED FUNCTIONS

SEC. 302. (a) Subject to the provisions of this section, the President, for a period of four years after the date of enactment of this Act, may transfer to the Administration any functions (including

¹In accordance with section 1(a)(10) of Public Law 104-14 (109 Stat. 187), "the Committee on Science, Space, and Technology of the House of Representatives shall be treated as referring to the Committee on Science of the House of Representatives".

powers, duties, activities, facilities, and parts of functions) of any other department or agency of the United States, or of any officer or organizational entity thereof, which relate primarily to the functions, powers, and duties of the Administration as prescribed by section 203 of this Act. In connection with any such transfer, the President may, under this section or other applicable authority, provide for appropriate transfers of records, property, civilian personnel, and funds.

(b) Whenever any such transfer is made before January 1, 1959, the President shall transmit to the Speaker of the House of Representatives and the President pro tempore of the Senate a full and complete report concerning the nature and effect of such transfer.

(c) After December 31, 1958, no transfer shall be made under this section until (1) a full and complete report concerning the nature and effect of such proposed transfer has been transmitted by the President to the Congress, and (2) the first period of sixty calendar days of regular session of the Congress following the date of receipt of such report by the Congress has expired without the adoption by the Congress of a concurrent resolution stating that the Congress does not favor such transfer.

(42 U.S.C. 2453)

ACCESS TO INFORMATION

SEC. 303. (a) Information obtained or developed by the Administrator in the performance of his functions under this Act shall be made available for public inspection, except (A) information authorized or required by Federal statute to be withheld, (B) information classified to protect the national security, and (C) information described in subsection (b): *Provided*, That nothing in this Act shall authorize the withholding of information by the Administrator from the duly authorized committees of the Congress.

(b) The Administrator, for a period of up to 5 years after the development of information that results from activities conducted under an agreement entered into under section 203(c)(5) and (6) of this Act, and that would be a trade secret or commercial or financial information that is privileged or confidential under the meaning of section 552(b)(4) of title 5, United States Code, if the information had been obtained from a non-Federal party participating in such an agreement, may provide appropriate protections against the dissemination of such information, including exemption from subchapter II of chapter 5 of title 5, United States Code.

(42 U.S.C. 2454)

SECURITY

SEC. 304. (a) The Administrator shall establish such security requirements, restrictions, and safeguards as he deems necessary in the interest of the national security. The Administrator may arrange with the Civil Service Commission¹ for the conduct of such security or other personnel investigations of the Administration's officers, employees, and consultants, and its contractors and sub-

¹ Pursuant to reorganization Plan No. 2 of 1978 (as referred to in 5 U.S.C. 1101), the functions of the Civil Service Commission are now vested in the Office of Personnel Management.

contractors and their officers and employees, actual or prospective, as he deems appropriate; and if any such investigation develops any data reflecting that the individual who is the subject thereof is of questionable loyalty the matter shall be referred to the Federal Bureau of Investigation for the conduct of a full field investigation, the results of which shall be furnished to the Administrator.

(42 U.S.C. 2455)

(b) The Atomic Energy Commission may authorize any of its employees, or employees of any contractor, prospective contractor, licensee, or prospective licensee of the Atomic Energy Commission or any other person authorized to have access to Restricted Data by the Atomic Energy Commission under subsection 145 b. of the Atomic Energy Act of 1954 (42 U.S.C. 2165(b)), to permit any member, officer, or employee of the Council, or the Administrator, or any officer, employee, member of an advisory committee, contractor, subcontractor, or officer or employee of a contractor or subcontractor of the Administration, to have access to Restricted Data relating to aeronautical and space activities which is required in the performance of his duties and so certified by the Council or the Administrator, as the case may be, but only if (1) the Council or Administrator or designee thereof has determined, in accordance with the established personnel security procedures and standards of the Council or Administration, that permitting such individual to have access to such Restricted Data will not endanger the common defense and security, and (2) the Council or Administrator or designee thereof finds that the established personnel and other security procedures and standards of the Council or Administration are adequate and in reasonable conformity to the standards established by the Atomic Energy Commission under section 145 of the Atomic Energy Act of 1954 (42 U.S.C. 2165). Any individual granted access to such Restricted Data pursuant to this subsection may exchange such Data with any individual who (A) is an officer or employee of the Department of Defense, or any department or agency thereof, or a member of the armed forces, or a contractor or subcontractor of any such department, agency, or armed force, or an officer or employee of any such contractor or subcontractor, and (B) has been authorized to have access to Restricted Data under the provisions of section 143 of the Atomic Energy Act of 1954 (42 U.S.C. 2163).

(42 U.S.C. 2455)

(c) Chapter 37 of title 18 of the United States Code (entitled Espionage and Censorship) is amended by—

(1) adding at the end thereof the following new section:

“§ 799. Violation of regulations of National Aeronautics and Space Administration

“Whoever willfully shall violate, attempt to violate, or conspire to violate any regulation or order promulgated by the Administrator of the National Aeronautics and Space Administration for the protection or security of any laboratory, station, base or other facility, or part thereof, or any aircraft, missile, spacecraft, or similar vehicle, or part thereof, or other property or equipment in the custody of the Administration, or any real or personal property or

equipment in the custody of any contractor under any contract with the Administration or any subcontractor of any such contractor, shall be fined not more than \$5,000, or imprisoned not more than one year, or both."

(2) adding at the end of the sectional analysis thereof the following new item:

"799. Violation of regulations of National Aeronautics and Space Administration."

(d) Section 1114 of title 18 of the United States Code is amended by inserting immediately before "while engaged in the performance of his official duties" the following: "or any officer or employee of the National Aeronautics and Space Administration directed to guard and protect property of the United States under the administration and control of the National Aeronautics and Space Administration,".

(e) The Administrator may direct such of the officers and employees of the Administration as he deems necessary in the public interest to carry firearms while in the conduct of their official duties. The Administrator may also authorize such of those employees of the contractors and subcontractors of the Administration engaged in the protection of property owned by the United States and located at facilities owned by or contracted to the United States as he deems necessary in the public interest, to carry firearms while in the conduct of their official duties.

(42 U.S.C. 2456)

(f) Under regulations to be prescribed by the Administrator and approved by the Attorney General of the United States, those employees of the Administration and of its contractors and subcontractors authorized to carry firearms under subsection (e) may arrest without warrant for any offense against the United States committed in their presence, or for any felony cognizable under the laws of the United States if they have reasonable grounds to believe that the person to be arrested has committed or is committing such felony. Persons granted authority to make arrests by this subsection may exercise that authority only while guarding and protecting property owned or leased by, or under the control of, the United States under the administration and control of the Administration or one of its contractors or subcontractors, at facilities owned by or contracted to the Administration.

(42 U.S.C. 2456a)

PROPERTY RIGHTS IN INVENTIONS

SEC. 305. (a) Whenever any invention is made in the performance of any work under any contract of the Administration, and the Administrator determines that—

(1) the person who made the invention was employed or assigned to perform research, development, or exploration work and the invention is related to the work he was employed or assigned to perform, or that it was within the scope of his employment duties, whether or not it was made during working hours, or with a contribution by the Government of the use of Government facilities, equipment, materials, allocated funds, information proprietary to the Government, or services of Government employees during working hours; or

(2) the person who made the invention was not employed or assigned to perform research, development, or exploration work, but the invention is nevertheless related to the contract, or to the work or duties he was employed or assigned to perform, and was made during working hours, or with a contribution from the Government of the sort referred to in clause (1), such invention shall be the exclusive property of the United States, and if such invention is patentable a patent therefor shall be issued to the United States upon application made by the Administrator, unless the Administrator waives all or any part of the rights of the United States to such invention in conformity with the provisions of subsection (f) of this section.

(b) Each contract entered into by the Administrator with any party for the performance of any work shall contain effective provisions under which such party shall furnish promptly to the Administrator a written report containing full and complete technical information concerning any invention, discovery, improvement, or innovation which may be made in the performance of any such work.

(c) No patent may be issued to any applicant other than the Administrator for any invention which appears to the Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office (hereafter in this section referred to as the "Director") to have significant utility in the conduct of aeronautical and space activities unless the applicant files with the Director, with the application or within thirty days after request therefor by the Director, a written statement executed under oath setting forth the full facts concerning the circumstances under which such invention was made and stating the relationship (if any) of such invention to the performance of any work under any contract of the Administration. Copies of each such statement and the application to which it relates shall be transmitted forthwith by the Director to the Administrator.

(d) Upon any application as to which any such statement has been transmitted to the Administrator, the Director may, if the invention is patentable, issue a patent to the applicant unless the Administrator, within ninety days after receipt of such application and statement, requests that such patent be issued to him on behalf of the United States. If, within such time, the Administrator files such a request with the Director, the Director shall transmit notice thereof to the applicant, and shall issue such patent to the Administrator unless the applicant within thirty days after receipt of such notice requests a hearing before the Board of Patent Appeals and Interferences on the question whether the Administrator is entitled under this section to receive such patent. The Board may hear and determine, in accordance with rules and procedures established for interference cases, the question so presented, and its determination shall be subject to appeal by the applicant or by the Administrator to the United States Court of Appeals for the Federal Circuit in accordance with procedures governing appeals from decisions of the Board of Patent Appeals and Interferences in other proceedings.

(e) Whenever any patent has been issued to any applicant in conformity with subsection (d), and the Administrator thereafter has reason to believe that the statement filed by the applicant in connection therewith contained any false representation of any ma-

terial fact, the Administrator within five years after the date of issuance of such patent may file with the Director a request for the transfer to the Administrator of title to such patent on the records of the Director. Notice of any such request shall be transmitted by the Director to the owner of record of such patent, and title, to such patent shall be so transferred to the Administrator unless within thirty days after receipt of such notice such owner of record requests a hearing before the Board of Patent Appeals and Interferences on the question whether any such false representation was contained in such statement. Such question shall be heard and determined, and determination thereof shall be subject to review, in the manner prescribed by subsection (d) for questions arising thereunder. No request made by the Administrator under this subsection for the transfer of title to any patent, and no prosecution for the violation of any criminal statute, shall be barred by any failure of the Administrator to make a request under subsection (d) for the issuance of such patent to him, or by any notice previously given by the Administrator stating that he had no objection to the issuance of such patent to the applicant therefore.

(f) Under such regulations in conformity with this subsection as the Administrator shall prescribe, he may waive all or any part of the rights of the United States under this section with respect to any invention or class of inventions made or which may be made by any person or class of persons in the performance of any work required by any contract of the Administration if the Administrator determines that the interests of the United States will be served thereby. Any such waiver may be made upon such terms and under such conditions as the Administrator shall determine to be required for the protection of the interests of the United States. Each such waiver made with respect to any invention shall be subject to the reservation by the Administrator of an irrevocable, nonexclusive, nontransferrable, royalty-free license for the practice of such invention throughout the world by or on behalf of the United States or any foreign government pursuant to any treaty or agreement with the United States. Each proposal for any waiver under this subsection shall be referred to an Inventions and Contributions Board which shall be established by the Administrator within the Administration. Such Board shall accord to each interested party an opportunity for hearing, and shall transmit to the Administrator its findings of fact with respect to such proposal and its recommendations for action to be taken with respect thereto.

[Subsection (g) repealed by P.L. 96-517.]

(h) The Administrator is authorized to take all suitable and necessary steps to protect any invention or discovery to which he has title, and to require that contractors or persons who retain title to inventions or discoveries under this section protect the inventions or discoveries to which the Administration has or may acquire a license of use.

(i) The Administration shall be considered a defense agency of the United States for the purpose of chapter 17 of title 35 of the United States Code.

(j) As used in this section—

(1) the term "person" means any individual, partnership, corporation, association, institution, or other entity;

(2) the term "contract" means any actual or proposed contract, agreement, understanding, or other arrangement, and includes any assignment, substitution of parties, or subcontract executed or entered into thereunder; and

(3) the term "made", when used in relation to any invention, means the conception or first actual reduction to practice of such invention.

(k) Any object intended for launch, launched, or assembled in outer space shall be considered a vehicle for the purpose of section 272 of title 35, United States Code.

(l) The use or manufacture of any patented invention incorporated in a space vehicle launched by the United States Government for a person other than the United States shall not be considered to be a use or manufacture by or for the United States within the meaning of section 1498(a) of title 28, United States Code, unless the Administration gives an express authorization or consent for such use or manufacture.

(42 U.S.C. 2457)

CONTRIBUTIONS AWARDS

SEC. 306. (a) Subject to the provisions of this section, the Administrator is authorized, upon his own initiative or upon application of any person, to make a monetary award, in such amount and upon such terms as he shall determine to be warranted, to any person (as defined by section 305) for any scientific or technical contribution to the Administration which is determined by the Administrator to have significant value in the conduct of aeronautical and space activities. Each application made for any such award shall be referred to the Inventions and Contributions Board established under section 305 of this Act. Such Board shall accord to each such applicant an opportunity for hearing upon such application, and shall transmit to the Administrator its recommendation as to the terms of the award, if any, to be made to such applicant for such contribution. In determining the terms and conditions of any award the Administrator shall take into account—

(1) the value of the contribution to the United States;

(2) the aggregate amount of any sums which have been expended by the applicant for the development of such contribution;

(3) the amount of any compensation (other than salary received for services rendered as an officer or employee of the Government) previously received by the applicant for or on account of the use of such contribution by the United States; and

(4) such other factors as the Administrator shall determine to be material.

(b) If more than one applicant under subsection (a) claims an interest in the same contribution, the Administrator shall ascertain and determine the respective interests of such applicants, and shall apportion any award to be made with respect to such contribution among such applicants in such proportions as he shall determine to be equitable. No award may be made under subsection (a) with respect to any contribution—

(1) unless the applicant surrenders, by such means as the Administrator shall determine to be effective, all claims which

such applicant may have to receive any compensation (other than the award made under this section) for the use of such contribution or any element thereof at any time by or on behalf of the United States, or by or on behalf of any foreign government pursuant to any treaty or agreement with the United States, within the United States or at any other place;

(2) in any amount exceeding \$100,000, unless the Administrator has transmitted to the appropriate committees of the Congress a full and complete report concerning, the amount and terms of, and the basis for, such proposed award, and thirty calendar days of regular session of the Congress have expired after receipt of such report by such committees.

(42 U.S.C. 2458)

DEFENSE OF CERTAIN MALPRACTICE AND NEGLIGENCE SUITS

SEC. 307. (a) The remedy against the United States provided by sections 1346(b) and 2672 of title 28, United States Code, for damages for personal injury, including death, caused by the negligent or wrongful act or omission of any physician, dentist, nurse, pharmacist, or paramedical or other supporting personnel (including medical and dental technicians, nursing assistants, and therapists) of the Administration in the performance of medical, dental, or related health care functions (including clinical studies and investigations) while acting within the scope of his duties or employment therein or therefor shall hereafter be exclusive of any other civil action or proceeding by reason of the same subject matter against such physician, dentist, nurse, pharmacist, or paramedical or other supporting personnel (or the estate of such person) whose act or omission gave rise to such action or proceeding.

(b) The Attorney General shall defend any civil action or proceeding brought in any court against any person referred to in subsection (a) of this section (or the estate of such person) for any such injury. Any such person against whom such civil action or proceeding is brought shall deliver within such time after date of service or knowledge of service as determined by the Attorney General, all process served upon such person or an attested true copy thereof to such person's immediate superior or to whomever was designated by the Administrator to receive such papers and such person shall promptly furnish copies of the pleading and process therein to the United States Attorney for the district embracing the place wherein the proceeding is brought to the Attorney General and to the Administrator.

(c) Upon a certification by the Attorney General that any person described in subsection (a) was acting in the scope of such person's duties or employment at the time of the incident out of which the suit arose, any such civil action or proceeding commenced in a State court shall be removed without bond at any time before trial by the Attorney General to the district court of the United States of the district and division embracing the place wherein it is pending and the proceeding deemed a tort action brought against the United States under the provisions of title 28, United States Code, and all references thereto. Should a United States district court determine on a hearing on a motion to remand held before a trial on the merits that the case so removed is one in which a remedy by

suit within the meaning of subsection (a) of this section is not available against the United States, the case shall be remanded to the State court.

(d) The Attorney General may compromise or settle any claim asserted in such civil action or proceeding in the manner provided in section 2677 of title 28, United States Code, and with the same effect.

(e) For purposes of this section, the provision of section 2680(h) of title 28, United States Code, shall not apply to any cause of action arising out of a negligent or wrongful act of omission in the performance of medical, dental, or related health care functions (including clinical studies and investigations).

(f) The Administrator or his designee may, to the extent that the Administrator or his designee deem appropriate, hold harmless or provide liability insurance for any person described in subsection (a) for damages for personal injury, including death, caused by such person's negligent or wrongful act or omission in the performance of medical, dental, or related health care functions (including clinical studies and investigations) while acting within the scope of such person's duties if such person is assigned to a foreign country or detailed for service with other than a Federal department, agency, or instrumentality or if the circumstances are such as are likely to preclude the remedies of third persons against the United States described in section 2679(b) of title 28, United States Code, for such damage or injury.

(42 U.S.C. 2458a)

INSURANCE AND INDEMNIFICATION

SEC. 308. (a) The Administration is authorized on such terms and to the extent it may deem appropriate to provide liability insurance for any user of a space vehicle to compensate all or a portion of claims by third parties for death, bodily injury, or loss of or damage to property resulting from activities carried on in connection with the launch, operations or recovery of the space vehicle. Appropriations available to the Administration may be used to acquire such insurance, but such appropriations shall be reimbursed to the maximum extent practicable by the users under reimbursement policies established pursuant to section 203(c) of this Act.

(b) Under such regulations in conformity with this section as the Administrator shall prescribe taking into account the availability, cost and terms liability insurance, any agreement between the Administration and a user of a space vehicle may provide that the United States will indemnify the user against claims (including reasonable expenses of litigation or settlement) by third parties for death, bodily injury, or loss or damage to property resulting from activities carried on in connection with the launch, operations or recovery of the space vehicle, but only to the extent that such claims are not compensated by liability insurance of the user: *Provided*, That such indemnification may be limited to claims resulting from other than the actual negligence or willful misconduct of the user.

(c) An agreement made under subsection (b) that provides indemnification must also provide for—

(1) notice to the United States of any claim or suit against the user for the death, bodily injury, or loss of or damage to the property; and

(2) control of or assistance in the defense by the United States, at its election, of that suit or claim.

(d) No payment may be made under subsection (b) unless the Administrator or his designee certifies that the amount is just and reasonable.

(e) Upon the approval by the Administrator, payments under subsection (b) may be made, at the Administrator's election, either from funds available for research and development not otherwise obligated or from funds appropriated for such payments.

(f) As used in this section—

(1) the term "space vehicle" means an object intended for launch, launched or assembled in outer space, including the Space Shuttle and other components of a space transportation system, together with related equipment, devices, components and parts;

(2) the term "user" includes anyone who enters into an agreement with the Administration for use of all or a portion of a space vehicle, who owns or provides property to be flown on a space vehicle, or who employs a person to be flown on a space vehicle; and

(3) the term "third party" means any person who may institute a claim against a user for death, bodily injury or loss of or damage to property.

(42 U.S.C. 2458b)

EXPERIMENTAL AEROSPACE VEHICLE

SEC. 309. (a) IN GENERAL.—The Administrator may provide liability insurance for, or indemnification to, the developer of an experimental aerospace vehicle developed or used in execution of an agreement between the Administration and the developer.

(b) TERMS AND CONDITIONS.—

(1) IN GENERAL.—Except as otherwise provided in this section, the insurance and indemnification provided by the Administration under subsection (a) to a developer shall be provided on the same terms and conditions as insurance and indemnification is provided by the Administration under section 308 of this Act to the user of a space vehicle.

(2) INSURANCE.—

(A) IN GENERAL.—A developer shall obtain liability insurance or demonstrate financial responsibility in amounts to compensate for the maximum probable loss from claims by—

(i) a third party for death, bodily injury, or property damage, or loss resulting from an activity carried out in connection with the development or use of an experimental aerospace vehicle; and

(ii) the United States Government for damage or loss to Government property resulting from such an activity.

(B) MAXIMUM REQUIRED.—The Administrator shall determine the amount of insurance required, but, except as

provided in subparagraph (C), that amount shall not be greater than the amount required under section 70112(a)(3)(A) of title 49, United States Code, for a launch. The Administrator shall publish notice of the Administrator's determination and the applicable amount or amounts in the Federal Register within 10 days after making the determination.

(C) INCREASE IN DOLLAR AMOUNTS.—The Administrator may increase the dollar amounts set forth in section 70112(a)(3)(A) of title 49, United States Code, for the purpose of applying that section under this section to a developer after consultation with the Comptroller General and such experts and consultants as may be appropriate, and after publishing notice of the increase in the Federal Register not less than 180 days before the increase goes into effect. The Administrator shall make available for public inspection, not later than the date of publication of such notice, a complete record of any correspondence received by the Administration, and a transcript of any meetings in which the Administration participated, regarding the proposed increase.

(D) SAFETY REVIEW REQUIRED BEFORE ADMINISTRATOR PROVIDES INSURANCE.—The Administrator may not provide liability insurance or indemnification under subsection (a) unless the developer establishes to the satisfaction of the Administrator that appropriate safety procedures and practices are being followed in the development of the experimental aerospace vehicle.

(3) NO INDEMNIFICATION WITHOUT CROSS-WAIVER.—Notwithstanding subsection (a), the Administrator may not indemnify a developer of an experimental aerospace vehicle under this section unless there is an agreement between the Administrator and the developer described in subsection (c).

(4) APPLICATION OF CERTAIN PROCEDURES.—If the Administrator requests additional appropriations to make payments under this section, like the payments that may be made under section 308(b) of this Act, then the request for those appropriations shall be made in accordance with the procedures established by subsections (d) and (e) of section 70113 of title 49, United States Code.

(c) CROSS-WAIVERS.—

(1) ADMINISTRATOR AUTHORIZED TO WAIVE.—The Administrator, on behalf of the United States, and its departments, agencies, and instrumentalities, may reciprocally waive claims with a developer or cooperating party and with the related entities of that developer or cooperating party under which each party to the waiver agrees to be responsible, and agrees to ensure that its own related entities are responsible, for damage or loss to its property for which it is responsible, or for losses resulting from any injury or death sustained by its own employees or agents, as a result of activities connected to the agreement or use of the experimental aerospace vehicle.

(2) LIMITATIONS.—

(A) CLAIMS.—A reciprocal waiver under paragraph (1) may not preclude a claim by any natural person (includ-

ing, but not limited to, a natural person who is an employee of the United States, the developer, the cooperating party, or their respective subcontractors) or that natural person's estate, survivors, or subrogees for injury or death, except with respect to a subrogee that is a party to the waiver or has otherwise agreed to be bound by the terms of the waiver.

(B) **LIABILITY FOR NEGLIGENCE.**—A reciprocal waiver under paragraph (1) may not absolve any party of liability to any natural person (including, but not limited to, a natural person who is an employee of the United States, the developer, the cooperating party, or their respective subcontractors) or such a natural person's estate, survivors, or subrogees for negligence, except with respect to a subrogee that is a party to the waiver or has otherwise agreed to be bound by the terms of the waiver.

(C) **INDEMNIFICATION FOR DAMAGES.**—A reciprocal waiver under paragraph (1) may not be used as the basis of a claim by the Administration, or the developer or cooperating party, for indemnification against the other for damages paid to a natural person, or that natural person's estate, survivors, or subrogees, for injury or death sustained by that natural person as a result of activities connected to the agreement or use of the experimental aerospace vehicle.

(D) **WILLFUL MISCONDUCT.**—A reciprocal waiver under paragraph (1) may not relieve the United States, the developer, the cooperating party, or the related entities of the developer or cooperating party, of liability for damage or loss resulting from willful misconduct.

(3) **EFFECT ON PREVIOUS WAIVERS.**—Subsection (c) applies to any waiver of claims entered into by the Administration without regard to whether it was entered into before, on, or after the date of the enactment of this Act.

(d) **DEFINITIONS.**—In this section:

(1) **COOPERATING PARTY.**—The term “cooperating party” means any person who enters into an agreement with the Administration for the performance of cooperative scientific, aeronautical, or space activities to carry out the purposes of this Act.

(2) **DEVELOPER.**—The term “developer” means a United States person (other than a natural person) who—

(A) is a party to an agreement with the Administration for the purpose of developing new technology for an experimental aerospace vehicle;

(B) owns or provides property to be flown or situated on that vehicle; or

(C) employs a natural person to be flown on that vehicle.

(3) **EXPERIMENTAL AEROSPACE VEHICLE.**—The term “experimental aerospace vehicle” means an object intended to be flown in, or launched into, orbital or suborbital flight for the purpose of demonstrating technologies necessary for a reusable launch vehicle, developed under an agreement between the Administration and a developer.

(4) RELATED ENTITY.—The term “related entity” includes a contractor or subcontractor at any tier, a supplier, a grantee, and an investigator or detailee.

(e) RELATIONSHIP TO OTHER LAWS.—

(1) SECTION 308.—This section does not apply to any object, transaction, or operation to which section 308 of this Act applies.

(2) CHAPTER 701 OF TITLE 49, UNITED STATES CODE.—The Administrator may not provide indemnification to a developer under this section for launches subject to license under section 70117(g)(1) of title 49, United States Code.

(f) TERMINATION.—

(1) IN GENERAL.—The provisions of this section shall terminate on December 31, 2002, except that the Administrator may extend the termination date to a date not later than September 30, 2005, if the Administrator determines that such extension is in the interests of the United States.

(2) EFFECT OF TERMINATION ON AGREEMENT.—The termination of this section shall not terminate or otherwise affect any cross-waiver agreement, insurance agreement, indemnification agreement, or other agreement entered into under this section, except as may be provided in that agreement.

(42 U.S.C. 2458c)

APPROPRIATIONS

SEC. 310. (a) There are hereby authorized to be appropriated such sums as may be necessary to carry out this Act, except that nothing in this Act shall authorize the appropriation of any amount for (1) the acquisition or condemnation of any real property, or (2) any other item of a capital nature (such as plant or facility acquisition, construction, or expansion) which exceeds \$250,000. Sums appropriated pursuant to this subsection for the construction of facilities, or for research and development activities, shall remain available until expended.

(b) Any funds appropriated for the construction of facilities may be used for emergency repairs of existing facilities when such existing facilities are made inoperative by major breakdown, accident, or other circumstances and such repairs are deemed by the Administrator to be of greater urgency than the construction of new facilities.

(c) Notwithstanding any other provision of law, the authorization of any appropriation to the Administration shall expire (unless an earlier expiration is specifically provided) at the close of the third fiscal year following the fiscal year in which the authorization was enacted, to the extent that such appropriation has not theretofore actually been made.

(42 U.S.C. 2459)

MISUSE OF AGENCY NAME AND INITIALS

SEC. 311. (a) No person (as defined by section 305) may (1) knowingly use the words “National Aeronautics and Space Administration” or the letters “NASA”, or any combination, variation, or colorable imitation of those words or letters either alone or in com-

bination with other words or letters, as a firm or business name in a manner reasonably calculated to convey the impression that such firm or business has some connection with, endorsement of, or authorization from, the National Aeronautics and Space Administration which does not, in fact, exist; or (2) knowingly use those words or letters or any combination, variation, or colorable imitation thereof either alone or in combination with other words or letters in connection with any product or service being offered or made available to the public in a manner reasonably calculated to convey the impression that such product or service has the authorization, support, sponsorship, or endorsement of, or the development, use, or manufacture by or on behalf of the National Aeronautics and Space Administration which does not, in fact, exist.

(b) Whenever it appears to the Attorney General that any person is engaged in an act or practice which constitutes or will constitute conduct prohibited by subsection (a), the Attorney General may initiate a civil proceeding in a district court of the United States to enjoin such act or practice.

(42 U.S.C. 2459b)

CONTRACTS REGARDING EXPENDABLE LAUNCH VEHICLES

SEC. 312. (a) The Administrator may enter into contracts for expendable¹ launch vehicle services that are for periods in excess of the period for which funds are otherwise available for obligation, provide for the payment for contingent liability which may accrue in excess of available appropriations in the event the Government for its convenience terminates such contracts and provide for advance payments reasonably related to launch vehicle and related equipment, fabrication, and acquisition costs, if any such contract limits the amount of the payments that the Federal Government is allowed to make under such contract to amounts provided in advance in appropriation Acts. Such contracts may be limited to sources within the United States when the Administrator determines that such limitation is in the public interest.

(b) If funds are not available to continue any such contract, the contract shall be terminated for the convenience of the Government, and the costs of such contract shall be paid from appropriations originally available for performance of the contract, from other, unobligated appropriations currently available for the procurement of launch services, or from funds appropriated for such payments.

(42 U.S.C. 2459c)

SEC. 312.² (a) Appropriations for the Administration for fiscal year 2002 and thereafter shall be made in three accounts, "Human space flight", "Science, aeronautics and technology", and an account for amounts appropriated for the necessary expenses of the Office of Inspector General. Appropriations shall remain available for 2 fiscal years. Each account shall include the planned full costs of the Administration's related activities.

¹ So in original. Probably should be "expendable".

² Section 431 of H.R. 5482 (as introduced in the 106th Congress; 114 Stat. 1441A-54), enacted by section 1(a)(1) of Public Law 106-377 (114 Stat. 1441), added this section to the end of title III.

(b) To ensure the safe, timely, and successful accomplishment of Administration missions, the Administration may transfer amounts for Federal salaries and benefits; training, travel and awards; facility and related costs; information technology services; publishing services; science, engineering, fabricating and testing services; and other administrative services among accounts, as necessary.

(c) The Administrator, in consultation with the Director of the Office of Management and Budget, shall determine what balances from the "Mission support" account are to be transferred to the "Human space flight" and "Science, aeronautics and technology" accounts. Such balances shall be transferred and merged with the "Human space flight" and "Science, aeronautics and technology" accounts, and remain available for the period of which originally appropriated.

(42 U.S.C. 2459f)

ENHANCED-USE LEASE OF REAL PROPERTY DEMONSTRATION

SEC. 315.¹ (a) IN GENERAL.—Notwithstanding any other provision of law, the Administrator may enter into a lease under this section with any person or entity (including another department or agency of the Federal Government or an entity of a State or local government) with regard to any real property under the jurisdiction of the Administrator at no more than two (2) National Aeronautics and Space Administration (NASA) centers.

(b) CONSIDERATION.—

(1) A person or entity entering into a lease under this section shall provide consideration for the lease at fair market value as determined by the Administrator, except that in the case of a lease to another department or agency of the Federal Government, that department or agency shall provide consideration for the lease equal to the full costs to NASA in connection with the lease.

(2) Consideration under this subsection may take one or a combination of the following forms—

(A) the payment of cash;

(B) the maintenance, construction, modification or improvement of facilities on real property under the jurisdiction of the Administrator;

(C) the provision of services to NASA, including launch services and payload processing services; or

(D) use by NASA of facilities on the property.

(3)(A) The Administrator may utilize amounts of cash consideration received under this subsection for a lease entered into under this section to cover the full costs to NASA in connection with the lease. These funds shall remain available until expended.

(B) Any amounts of cash consideration received under this subsection that are not utilized in accordance with subparagraph (A) shall be deposited in a capital asset account to be established by the Administrator, shall be available for mainte-

¹ Section 315 was added by section 418 of Public 108-7 (div. K; 117 Stat. 525). There are no sections 313 and 314. Also see footnotes relating to two sections designated as 312 enacted into law.

nance, capital revitalization, and improvements of the real property assets of the centers selected for this demonstration program, and shall remain available until expended.

(c) **ADDITIONAL TERMS AND CONDITIONS.**—The Administrator may require such terms and conditions in connection with a lease under this section as the Administrator considers appropriate to protect the interests of the United States.

(d) **RELATIONSHIP TO OTHER LEASE AUTHORITY.**—The authority under this section to lease property of NASA is in addition to any other authority to lease property of NASA under law.

(e) **LEASE RESTRICTIONS.**—NASA is not authorized to lease back property under this section during the term of the out-lease or enter into other contracts with the lessee respecting the property.

(f) **PLAN AND REPORTING REQUIREMENTS.**—At least 15 days prior to the Administrator entering into the first lease under this section, the Administrator shall submit a plan to the Congress on NASA's proposed implementation of this demonstration. The Administrator shall submit an annual report by January 31st of each year regarding the status of the demonstration.

(42 U.S.C. 2459j)

TITLE IV—UPPER ATMOSPHERIC RESEARCH

PURPOSE AND POLICY

SEC. 401. (a) The purpose of this title is to authorize and direct the Administration to develop and carry out a comprehensive program of research, technology, and monitoring of the phenomena of the upper atmosphere so as to provide for an understanding of and to maintain the chemical and physical integrity of the Earth's upper atmosphere.

(b) The Congress declares that it is the policy of the United States to undertake an immediate and appropriate research, technology, and monitoring program that will provide for understanding the physics and chemistry of the Earth's upper atmosphere.

(42 U.S.C. 2481)

DEFINITIONS

SEC. 402. For the purpose of this title the term "upper atmosphere" means that portion of the Earth's sensible atmosphere above the troposphere.

(42 U.S.C. 2482)

PROGRAM AUTHORIZED

SEC. 403. (a) In order to carry out the purposes of this title the Administration in cooperation with other Federal agencies, shall initiate and carry out a program of research, technology, monitoring, and other appropriate activities directed to understand the physics and chemistry of the upper atmosphere.

(b) In carrying out the provisions of this title the Administration shall—

(1) arrange for participation by the scientific and engineering community, of both the Nation's industrial organizations and institutions of higher education, in planning and carrying out appropriate research, in developing necessary technology and in making necessary observations and measurements;

(2) provide, by way of grant, contract, scholarships or other arrangements, to the maximum extent practicable and consistent with other laws, for the widest practicable and appropriate participation of the scientific and engineering community in the program authorized by this title; and

(3) make all results of the program authorized by this title available to the appropriate regulatory agencies and provide for the widest practicable dissemination of such results.

(42 U.S.C. 2483)

INTERNATIONAL COOPERATION

SEC. 404. In carrying out the provisions of this title, the Administration, subject to the direction of the President and after consultation with the Secretary of State, shall make every effort to enlist the support and cooperation of appropriate scientists and engineers of other countries and international organization.

(42 U.S.C. 2484)

NASA TEACHER FELLOWSHIP TRUST FUND¹

SEC. 20. [42 U.S.C. 2467a] NATIONAL AERONAUTICS AND SPACE ADMINISTRATION ENDEAVOR TEACHER FELLOWSHIP TRUST FUND.

(a) **ESTABLISHMENT.**—There is established in the Treasury of the United States, in tribute to the dedicated crew of the Space Shuttle Challenger, a trust fund to be known as the “National Aeronautics and Space Administration Endeavor Teacher Fellowship Trust Fund” (hereafter in this section referred to as the “Trust Fund”). The Trust Fund shall consist of gifts and donations accepted by the National Aeronautics and Space Administration pursuant to section 208 of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2476b), as well as other amounts which may from time to time, at the discretion of the Administrator, be transferred from the National Aeronautics and Space Administration Gifts and Donations Trust Fund.

(b) **INVESTMENT OF TRUST FUND.**—The Administrator shall direct the Secretary of the Treasury to invest and reinvest funds in the Trust Fund in public debt securities with maturities suitable for the needs of the Trust Fund, and bearing interest at rates determined by the Secretary of the Treasury, taking into consideration the current average market yield on outstanding marketable obligations of the United States of comparable maturities. Interest earned shall be credited to the Trust Fund.

(c) **PURPOSE.**—Income accruing from the Trust Fund principal shall be used to create the National Aeronautics and Space Administration Endeavor Teacher Fellowship Program, to the extent provided in advance in appropriation Acts. The Administrator is authorized to use such funds to award fellowships to selected United States nationals who are undergraduate students pursuing a course of study leading to certified teaching degrees in elementary education or in secondary education in mathematics, science, or technology disciplines. Awards shall be made pursuant to standards established for the fellowship program by the Administrator.

¹This section was enacted as section 20 of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1992 (Public Law 102-195).

NATIONAL SPACE COUNCIL¹

TITLE V—NATIONAL SPACE COUNCIL

NATIONAL SPACE COUNCIL

SEC. 501. [42 U.S.C. 2471] (a) Effective February 1, 1989, there is established in the Executive Office of the President the National Space Council, which shall be chaired by the Vice President.

(b) By March 1, 1989, the President shall submit to the Congress a report that outlines the composition and functions of the National Space Council.

(c) The Council may employ a staff of not more than seven persons, which is to be headed by a civilian executive secretary, who shall be appointed by the President.

¹This title was enacted as title V of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1989 (Public Law 100-685).

NATIONAL SPACE GRANT COLLEGE AND FELLOWSHIP ACT¹

TITLE II—NATIONAL SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM

SEC. 201. [42 U.S.C. 2486 note] This title may be cited as the “National Space Grant College and Fellowship Act”.

SEC. 202. [42 U.S.C. 2486] The Congress finds that—

(1) the vitality of the Nation and the quality of life of the citizens of the Nation depend increasingly on the understanding, assessment, development, and utilization of space resources;

(2) research and development of space science, space technology, and space commercialization will contribute to the quality of life, national security, and the enhancement of commerce;

(3) the understanding and development of the space frontiers require a broad commitment and an intense involvement on the part of the Federal Government in partnership with State and local governments, private industry, universities, organizations, and individuals concerned with the exploration and utilization of space;

(4) the National Aeronautics and Space Administration, through the national space grant college and fellowship program, offers the most suitable means for such commitment and involvement through the promotion of activities that will result in greater understanding, assessment, development, and utilization; and

(5) Federal support of the establishment, development, and operation of programs and projects by space grant colleges, space grant regional consortia, institutions of higher education, institutes, laboratories, and other appropriate public and private entities is the most cost-effective way to promote such activities.

SEC. 203. [42 U.S.C. 2486a] The purposes of this title are to—

(1) increase the understanding, assessment, development, and utilization of space resources by promoting a strong educational base, responsive research and training activities, and broad and prompt dissemination of knowledge and techniques;

(2) utilize the abilities and talents of the universities of the Nation to support and contribute to the exploration and devel-

¹This title was enacted as title II of the National Aeronautics and Space Administration Authorization Act of 1958 (Public Law 100-147).

opment of the resources and opportunities afforded by the space environment;

(3) encourage and support the existence of interdisciplinary and multidisciplinary programs of space research within the university community of the Nation, to engage in integrated activities of training, research and public service, to have cooperative programs with industry, and to be coordinated with the overall program of the National Aeronautics and Space Administration;

(4) encourage and support the existence of consortia, made up of university and industry members, to advance the exploration and development of space resources in cases in which national objectives can be better fulfilled than through the programs of single universities;

(5) encourage and support Federal funding for graduate fellowships in fields related to space; and

(6) support activities in colleges and universities generally for the purpose of creating and operating a network of institutional programs that will enhance achievements resulting from efforts under this title.

SEC. 204. [42 U.S.C. 2486b] As used in this title, the term—

(1) “Administration” means the National Aeronautics and Space Administration;

(2) “Administrator” means the Administrator of the National Aeronautics and Space Administration;

(3) “aeronautical and space activities” has the meaning given to such term in section 103(1) of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2452(1));

(4) “field related to space” means any academic discipline or field of study (including the physical, natural, and biological sciences, and engineering, space technology, education, economics, sociology, communications, planning, law, international affairs, and public administration) which is concerned with or likely to improve the understanding, assessment, development, and utilization of space;

(5) “panel” means the space grant review panel established pursuant to section 210 of this title;

(6) “person” means any individual, any public or private corporation, partnership, or other association or entity (including any space grant college, space grant regional consortium, institution of higher education, institute, or laboratory), or any State, political subdivision of a State, or agency or officer of a State or political subdivision of a State;

(7) “space environment” means the environment beyond the sensible atmosphere of the Earth;

(8) “space grant college” means any public or private institution of higher education which is designated as such by the Administrator pursuant to section 208 of this title;

(9) “space grant program” means any program which—

(A) is administered by any space grant college, space grant regional consortium, institution of higher education, institute, laboratory, or State or local agency; and

(B) includes two or more projects involving education and one or more of the following activities in the fields related to space—

- (i) research,
- (ii) training, or
- (iii) advisory services;

(10) "space grant regional consortium" means any association or other alliance which is designated as such by the Administrator pursuant to section 208 of this title;

(11) "space resource" means any tangible or intangible benefit which can only be realized from—

- (A) aeronautical and space activities; or
- (B) advancements in any field related to space; and

(12) "State" means any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or any other territory or possession of the United States.

SEC. 205. [42 U.S.C. 2486c] (a) The Administrator shall establish and maintain, within the Administration, a program to be known as the national space grant college and fellowship program. The national space grant college and fellowship program shall consist of the financial assistance and other activities provided for in this title. The Administrator shall establish long-range planning guidelines and priorities, and adequately evaluate the program.

(b) Within the Administration, the program shall—

(1) apply the long-range planning guidelines and the priorities established by the Administrator under subsection (a) of this section;

(2) advise the Administrator with respect to the expertise and capabilities which are available through the national space grant college and fellowship program, and make such expertise available to the Administration as directed by the Administrator;

(3) evaluate activities conducted under grants and contracts awarded pursuant to sections 206 and 207 of this title to assure that the purposes set forth in section 203 of this title are implemented;

(4) encourage other Federal departments, agencies, and instrumentalities to use and take advantage of the expertise and capabilities which are available through the national space grant college and fellowship program, on a cooperative or other basis;

(5) encourage cooperation and coordination with other Federal programs concerned with the development of space resources and fields related to space;

(6) advise the Administrator on the designation of recipients supported by the national space grant college and fellowship program and, in appropriate cases, on the termination or suspension of any such designation; and

(7) encourage the formation and growth of space grant and fellowship programs.

(c) To carry out the provisions of this title, the Administrator may—

(1) accept conditional or unconditional gifts or donations of services, money, or property, real, personal or mixed, tangible or intangible;

(2) accept and use funds from other Federal departments, agencies, and instrumentalities to pay for fellowships, grants, contracts, and other transactions; and

(3) issue such rules and regulations as may be necessary and appropriate.

SEC. 206. [42 U.S.C. 2486d] (a) The Administrator may make grants and enter into contracts or other transactions under this subsection to assist any space grant and fellowship program or project if the Administrator finds that such program or project will carry out the purposes set forth in section 203 of this title. The total amount paid pursuant to any such grant or contract may equal 66 percent, or any lesser percent, of the total cost of the space grant and fellowship program or project involved, except that this limitation shall not apply in the case of grants or contracts paid for with funds accepted by the Administrator pursuant to section 205(c)(2) of this title.

(b) The Administrator may make special grants under this subsection to carry out the purposes set forth in section 203 of this title. The amount of any such grant may equal 100 percent, or any lesser percent, of the total cost of the project involved. No grant may be made under this subsection, unless the Administrator finds that—

(1) no reasonable means is available through which the applicant can meet the matching requirement for a grant under subsection (a) of this section;

(2) the probable benefit of such project outweighs the public interest in such matching requirement; and

(3) the same or equivalent benefit cannot be obtained through the award of a contract or grant under subsection (a) of this section or section 207 of this title.

(c) Any person may apply to the Administrator for a grant or contract under this section. Application shall be made in such form and manner, and with such content and other submissions, as the Administrator shall by regulation prescribe.

(d)(1) Any grant made, or contract entered into, under this section shall be subject to the limitations and provisions set forth in paragraphs (2) and (3) of this subsection and to such other terms, conditions and requirements as the Administrator considers necessary or appropriate.

(2) No payment under any grant or contract under this section may be applied to—

(A) the purchase of any land;

(B) the purchase, construction, preservation, or repair of any building; or

(C) the purchase or construction of any launch facility or launch vehicle.

(3) Notwithstanding paragraph (2) of this subsection, the items in subparagraphs (A), (B), and (C) of such paragraph may be leased upon written approval of the Administrator.

(4) Any person who receives or utilizes any proceeds of any grant or contract under this section shall keep such records as the Administrator shall by regulation prescribe as being necessary and appropriate to facilitate effective audit and evaluation, including records which fully disclose the amount and disposition by such recipient of such proceeds, the total cost of the program or project in

connection with which such proceeds were used, and the amount, if any, of such cost which was provided through other sources. Such records shall be maintained for three years after the completion of such a program or project. The Administrator and the Comptroller General of the United States, or any of their duly authorized representatives, shall have access, for the purpose of audit and evaluation, to any books, documents, papers and records of receipts which, in the opinion of the Administrator or the Comptroller General, may be related or pertinent to such grants and contracts.

SEC. 207. [42 U.S.C. 2486e] (a) The Administrator shall identify specific national needs and problems relating to space. The Administrator may make grants or enter into contracts under this section with respect to such needs or problems. The amount of any such grant or contract may equal 100 percent, or any lesser percent, of the total cost of the project involved.

(b) Any person may apply to the Administrator for a grant or contract under this section. In addition, the Administrator may invite applications with respect to specific national needs or problems identified under subsection (a) of this section. Application shall be made in such form and manner, and with such content and other submissions, as the Administrator shall by regulation prescribe. Any grant made, or contract entered into, under this section shall be subject to the limitations and provisions set forth in section 206(d) (2) and (4) of this title and to such other terms, conditions, and requirements as the Administrator considers necessary or appropriate.

SEC. 208. [42 U.S.C. 2486f] (a)(1) The Administrator may designate—

(A) any institution of higher education as a space grant college; and

(B) any association or other alliance of two or more persons, other than individuals, as a space grant regional consortium.

(2) No institution of higher education may be designated as a space grant college, unless the Administrator finds that such institution—

(A) is maintaining a balanced program of research, education, training, and advisory services in fields related to space;

(B) will act in accordance with such guidelines as are prescribed under subsection (b)(2) of this section; and

(C) meets such other qualifications as the Administrator considers necessary or appropriate.

(3) No association or other alliance of two or more persons may be designated as a space grant regional consortium, unless the Administrator finds that such association or alliance—

(A) is established for the purpose of sharing expertise, research, educational facilities or training facilities, and other capabilities in order to facilitate research, education, training, and advisory services, in any field related to space;

(B) will encourage and follow a regional approach to solving problems or meeting needs relating to space, in cooperation with appropriate space grant colleges, space grant programs, and other persons in the region;

(C) will act in accordance with such guidelines as are prescribed under subsection (b)(2) of this section; and

(D) meets such other qualifications as the Administrator considers necessary or appropriate.

(b) The Administrator shall by regulation prescribe—

(1) the qualifications required to be met under subsection (a)(2)(C) and (3)(D) of this section; and

(2) guidelines relating to the activities and responsibilities of space grant colleges and space grant regional consortia.

(c) The Administrator may, for cause and after an opportunity for hearing, suspend or terminate any designation under subsection (a) of this section.

SEC. 209. [42 U.S.C. 2486g] (a) The Administrator shall support a space grant fellowship program to provide educational and training assistance to qualified individuals at the graduate level of education in fields related to space. Such fellowships shall be awarded pursuant to guidelines established by the Administrator. Space grant fellowships shall be awarded to individuals at space grant colleges, space grant regional consortia, other colleges and institutions of higher education, professional associations, and institutes in such a manner as to assure wide geographic and institutional diversity in the pursuit of research under the fellowship program.

(b) The total amount which may be provided for grants under the space grant fellowship program during any fiscal year shall not exceed an amount equal to 50 percent of the total funds appropriated for such year pursuant to this title.

(c) Nothing in this section shall be construed to prohibit the Administrator from sponsoring any research fellowship program, including any special emphasis program, which is established under an authority other than this title.

SEC. 210. [42 U.S.C. 2486h] (a) The Administrator shall establish an independent committee known as the space grant review panel, which shall not be subject to the provisions¹ of the Federal Advisory Committee Act (5 U.S.C. App. 1 et seq.; Public Law 92-463).

(b) The panel shall take such steps as may be necessary to review, and shall advise the Administrator with respect to—

(1) applications or proposals for, and performance under, grants and contracts awarded pursuant to sections 206 and 207 of this title;

(2) the space grant fellowship program;

(3) the designation and operation of space grant colleges and space grant regional consortia, and the operation of space grant and fellowship programs;

(4) the formulation and application of the planning guidelines and priorities pursuant to section 205 (a) and (b)(1) of this title; and

(5) such other matters as the Administrator refers to the panel for review and advice.

(c) The Administrator shall make available to the panel any information, personnel and administrative services and assistance which is reasonable to carry out the duties of the panel.

¹ So in law. Probably should be "provisions".

(d)(1) The Administrator shall appoint the voting members of the panel. A majority of the voting members shall be individuals who, by reason of knowledge, experience, or training, are especially qualified in one or more of the disciplines and fields related to space. The other voting members shall be individuals who, by reason of knowledge, experience or training, are especially qualified in, or representative of, education, extension services, State government, industry, economics, planning, or any other activity related to efforts to enhance the understanding, assessment, development, or utilization of space resources. The Administrator shall consider the potential conflict of interest of any individual in making appointments to the panel.

(2) The Administrator shall select one voting member to serve as the Chairman and another voting member to serve as the Vice Chairman. The Vice Chairman shall act as Chairman in the absence or incapacity of the Chairman.

(3) Voting members of the panel who are not Federal employees shall be reimbursed for actual and reasonable expenses incurred in the performance of such duties.

(4) The panel shall meet on a biannual basis and, at any other time, at the call of the Chairman or upon the request of a majority of the voting members or of the Administrator.

(5) The panel may exercise such powers as are reasonably necessary in order to carry out the duties enumerated in subsection (b) of this section.

SEC. 211. [42 U.S.C. 2486i] Each department, agency or other instrumentality of the Federal Government which is engaged in or concerned with, or which has authority over, matters relating to space—

(1) may, upon a written request from the Administrator, make available, on a reimbursable basis or otherwise, any personnel (with their consent and without prejudice to their position and rating), service, or facility which the Administrator considers necessary to carry out any provision of this title;

(2) may, upon a written request from the Administrator, furnish any available data or other information which the Administrator considers necessary to carry out any provision of this title; and

(3) may cooperate with the Administration.

[SEC. 212. [Repealed.]]

SEC. 213. [42 U.S.C. 2486k] The Administrator shall not under this title designate any space grant college or space grant regional consortium or award any fellowship, grant, or contract unless such designation or award is made in accordance with the competitive, merit-based review process employed by the Administration on the date of enactment of this Act.

SEC. 214. [42 U.S.C. 2486l] (a) There are authorized to be appropriated for the purposes of carrying out the provisions of this title sums not to exceed—

(1) \$10,000,000 for each of fiscal years 1988 and 1989; and

(2) \$15,000,000 for each of fiscal years 1990 and 1991.

(b) Such sums as may be appropriated under this section shall remain available until expended.

OFFICE OF SPACE COMMERCIALIZATION¹

SEC. 8. [15 U.S.C. 1511e] OFFICE OF SPACE COMMERCIALIZATION.

(a) **ESTABLISHMENT.**—There is established within the Technology Administration of the Department of Commerce an Office of Space Commercialization (referred to in this section as the “Office”).

(b) **DIRECTOR.**—The Office shall be headed by a Director, who shall be a senior executive and shall be compensated at a level in the Senior Executive Service under section 5382 of title 5, United States Code, as determined by the Secretary of Commerce.

(c) **FUNCTIONS OF THE OFFICE; DUTIES OF THE DIRECTOR.**—The Office shall be the principal unit for the coordination of space-related issues, programs, and initiatives within the Department of Commerce. The primary responsibilities of the Director, in carrying out the functions of the Office, shall include—

(1) promoting commercial provider investment in space activities by collecting, analyzing, and disseminating information on space markets, and conducting workshops and seminars to increase awareness of commercial space opportunities;

(2) assisting United States commercial providers in the efforts of those providers to conduct business with the United States Government;

(3) acting as an industry advocate within the executive branch of the Federal Government to ensure that the Federal Government meets the space-related requirements of the Federal Government, to the fullest extent feasible, using commercially available space goods and services;

(4) ensuring that the United States Government does not compete with United States commercial providers in the provision of space hardware and services otherwise available from United States commercial providers;

(5) promoting the export of space-related goods and services;

(6) representing the Department of Commerce in the development of United States policies and in negotiations with foreign countries to ensure free and fair trade internationally in the area of space commerce; and

(7) seeking the removal of legal, policy, and institutional impediments to space commerce.

¹This section was enacted as section 8 of the Technology Administration Act of 1998 (Public Law 105-309).

PEACEFUL USES OF SPACE STATION¹

SEC. 123. PEACEFUL USES OF SPACE STATION.

No civil space station authorized under section 103(a)(1) of this Act may be used to carry or place in orbit any nuclear weapon or any other weapon of mass destruction, to install any such weapon on any celestial body, or to station any such weapon in space in any other manner. This civil space station may be used only for peaceful purposes.

¹This section was enacted as section 123 of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1991 (Public Law 101-611).

REMOTE-SENSING RESEARCH AND DEVELOPMENT¹

SEC. 108. (a) The Administrator of the National Aeronautics and Space Administration is directed to continue and to enhance such Administration's programs of remote-sensing research and development.

(b) The Administrator is authorized and encouraged to—

(1) conduct experimental space remote-sensing programs (including applications demonstration programs and basic research at universities);

(2) develop remote-sensing technologies and techniques, including those needed for monitoring the Earth and its environment; and

(3) conduct such research and development in cooperation with other public and private research entities, including private industry, universities, Federal, State, and local government agencies, foreign governments, and international organizations, and to enter into arrangements (including joint ventures) which will foster such cooperation.

¹This section was enacted as section 108 of the National Aeronautics and Space Administration Authorization Act, 1965 (Public Law 98-361).

SHUTTLE PRICING POLICY FOR COMMERCIAL AND FOREIGN USERS¹

TITLE II—SHUTTLE PRICING POLICY FOR COMMERCIAL AND FOREIGN USERS

SEC. 201. [42 U.S.C. 2466] The Congress finds and declares that—

(1) the Space Transportation System is a vital element of the United States space program, contributing to the United States leadership in space research, technology, and development;

(2) the Space Transportation System is the primary space launch system for both United States national security and civil government missions;

(3) the Space Transportation System contributes to the expansion of United States private sector investment and involvement in space and therefore should serve commercial users;

(4) the availability of the Space Transportation System to foreign users for peaceful purposes is an important means of promoting international cooperative activities in the national interest and in maintaining access to space for activities which enhance the security and welfare of mankind;

(5) the United States is committed to maintaining world leadership in space transportation;

(6) making the Space Transportation System fully operational and cost effective in providing routine access to space will maximize the national economic benefits of the system; and

(7) national goals and the objectives for the Space Transportation System can be furthered by a stable and fair pricing policy for the Space Transportation System.

SEC. 202. [42 U.S.C. 2466a] The purpose of this title is to set the reimbursement pricing policy for the Space Transportation System for commercial and foreign users which is consistent with the findings included in section 201, encourages the full and effective use of space, and is designed to achieve the following goals—

(1) the preservation of the role of the United States as a leader in space research, technology, and development;

(2) the efficient and cost effective use of the Space Transportation System;

¹This title was enacted as title II of the National Aeronautics and Space Administration Authorization Act of 1986 (Public Law 99-170).

(3) the achievement of greatly increased commercial space activity; and

(4) the enhancement of the international competitive position of the United States.

SEC. 203. [42 U.S.C. 2466b] For purposes of this title, the term—

(1) “Administrator” means the Administrator of the National Aeronautics and Space Administration; and

(2) “additive cost” means the average direct and indirect costs to the National Aeronautics and Space Administration of providing additional flights of the Space Transportation System beyond the costs associated with those flights necessary to meet the space transportation needs of the United States Government.

SEC. 204. [42 U.S.C. 2466c] (a) The Administrator shall establish and implement a pricing system to recover reimbursement in accordance with the pricing policy under section 202 from each commercial or foreign user of the Space Transportation System, which except as provided in subsections (c), (d), and (e) shall include a base price of not less than \$74,000,000 for each flight of the Space Transportation System in 1982 dollars.

(b) Each year the Administrator shall submit to the President of the Senate, the Speaker of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Science, Space, and Technology of the House of Representatives¹, a report, transmitted contemporaneously with the annual budget request of the President, which shall inform the Congress how the policy goals contained in section 202 are being furthered by the shuttle price for foreign and commercial users.

(c)(1) If at any time the Administrator finds that the policy goals contained in section 202 are not being achieved, the Administrator shall have authority to reduce the base price established in subsection (a) after forty-five days following receipt by the President of the Senate, the Speaker of the House, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Science, Space, and Technology of the House of Representatives¹ of a notice by the Administrator containing a description of the proposed reduction together with a full and complete statement of the facts and circumstances which necessitate such proposed reduction.

(2) In no case shall the minimum price established under subsection (c)(1) be less than additive cost.

(d) The Administrator may set a price lower than the price determined under subsection (a) or (c), or provide no-cost flights, for any commercial or foreign user of the Space Transportation System who is involved in research, development or demonstration programs with the National Aeronautics and Space Administration.

(e) Notwithstanding the provisions of subsection (a), the Administrator shall have the authority to offer reasonable customer incentives consistent with the policy goals in section 202.

¹In accordance with section 1(a)(10) of Public Law 104-14 (109 Stat. 187), “the Committee on Science, Space, and Technology of the House of Representatives shall be treated as referring to the Committee on Science of the House of Representatives”.

SEC. 205. [42 U.S.C. 2466 note] This title shall apply to flights of the Space Transportation System beginning on and after October 1, 1988.

TERRITORIAL JURISDICTION OF THE UNITED STATES

(Section 7 of title 18, United States Code)

§ 7. Special maritime and territorial jurisdiction of the United States defined

The term "special maritime and territorial jurisdiction of the United States", as used in this title, includes:

(1) * * *

* * * * *

(6) Any vehicle used or designed for flight or navigation in space and on the registry of the United States pursuant to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies and the Convention on Registration of Objects Launched into Outer Space, while that vehicle is in flight, which is from the moment when all external doors are closed on Earth following embarkation until the moment when one such door is opened on Earth for disembarkation or in the case of a forced landing, until the competent authorities take over the responsibility for the vehicle and for persons and property aboard.

* * * * *

ANTARCTIC CONSERVATION ACT OF 1978

AN ACT To implement the Agreed Measures for the Conservation of Antarctic Fauna and Flora, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the “Antarctic Conservation Act of 1978”.

SEC. 2. [16 U.S.C. 2401] FINDINGS AND PURPOSE.

(a) FINDINGS.—The Congress finds that—

(1) for well over a quarter of a century, scientific investigation has been the principal activity of the Federal Government and United States nationals in Antarctica;

(2) more recently, interest of American tourists in Antarctica has increased;

(3) as the lead civilian agency in Antarctica, the National Science Foundation has long had responsibility for ensuring that United States scientific activities and tourism, and their supporting logistics operations, are conducted with an eye to preserving the unique values of the Antarctic region;

(4) the Antarctic Treaty and the Protocol establish a firm foundation for the conservation of Antarctic resources, for the continuation of international cooperation and the freedom of scientific investigation in Antarctica; and

(5) the Antarctic Treaty and the Protocol establish international mechanisms and create legal obligations necessary for the maintenance of Antarctica as a natural reserve devoted to peace and science.

(b) PURPOSE.—The purpose of this Act is to provide for the conservation and protection of the fauna and flora of Antarctica, and of the ecosystem upon which such fauna and flora depend, consistent with the Antarctic Treaty and the Protocol.

SEC. 3. [16 U.S.C. 2402] DEFINITIONS.

For purposes of this Act—

(1) the term “Administrator” means the Administrator of the Environmental Protection Agency;

(2) the term “Antarctica” means the area south of 60 degrees south latitude;

(3) the term “Antarctic Specially Protected Area” means an area identified as such pursuant to Annex V to the Protocol;

(4) the term “Director” means the Director of the National Science Foundation;

(5) the term “harmful interference” means—

(A) flying or landing helicopters or other aircraft in a manner that disturbs concentrations of birds or seals;

(B) using vehicles or vessels, including hovercraft and small boats, in a manner that disturbs concentrations of birds or seals;

(C) using explosives or firearms in a manner that disturbs concentrations of birds or seals;

(D) willfully disturbing breeding or molting birds or concentrations of birds or seals by persons on foot;

(E) significantly damaging concentrations of native terrestrial plants by landing aircraft, driving vehicles, or walking on them, or by other means; and

(F) any activity that results in the significant adverse modification of habitats of any species or population of native mammal, native bird, native plant, or native invertebrate;

(6) the term "historic site or monument" means any site or monument listed as an historic site or monument pursuant to Annex V to the Protocol;

(7) the term "impact" means impact on the Antarctic environment and dependent and associated ecosystems;

(8) the term "import" means to land on, bring into, or introduce into, or attempt to land on, bring into or introduce into, any place subject to the jurisdiction of the United States, including the 12-mile territorial sea of the United States, whether or not such act constitutes an importation within the meaning of the customs laws of the United States;

(9) the term "native bird" means any member, at any stage of its life cycle (including eggs), of any species of the class Aves which is indigenous to Antarctica or occurs there seasonally through natural migrations, and includes any part of such member;

(10) the term "native invertebrate" means any terrestrial or freshwater invertebrate, at any stage of its life cycle, which is indigenous to Antarctica, and includes any part of such invertebrate;

(11) the term "native mammal" means any member, at any stage of its life cycle, of any species of the class Mammalia, which is indigenous to Antarctica or occurs there seasonally through natural migrations, and includes any part of such member;

(12) the term "native plant" means any terrestrial or freshwater vegetation, including bryophytes, lichens, fungi, and algae, at any stage of its life cycle (including seeds and other propagules), which is indigenous to Antarctica, and includes any part of such vegetation;

(13) the term "non-native species" means any species of animal or plant which is not indigenous to Antarctica and does not occur there seasonally through natural migrations;

(14) the term "person" has the meaning given that term in section 1 of title 1, United States Code, and includes any person subject to the jurisdiction of the United States and any department, agency, or other instrumentality of the Federal Government or of any State or local government;

(15) the term "prohibited product" means any substance banned from introduction onto land or ice shelves or into water in Antarctica pursuant to Annex III to the Protocol;

(16) the term "prohibited waste" means any substance which must be removed from Antarctica pursuant to Annex III to the Protocol, but does not include materials used for balloon envelopes required for scientific research and weather forecasting;

(17) the term "Protocol" means the Protocol on Environmental Protection to the Antarctic Treaty, signed October 4, 1991, in Madrid, and all annexes thereto, including any future amendments thereto to which the United States is a party;

(18) the term "Secretary" means the Secretary of Commerce;

(19) the term "Specially Protected Species" means any native species designated as a Specially Protected Species pursuant to Annex II to the Protocol;

(20) the term "take" means to kill, injure, capture, handle, or molest a native mammal or bird, or to remove or damage such quantities of native plants that their local distribution or abundance would be significantly affected;

(21) the term "Treaty" means the Antarctic Treaty signed in Washington, DC, on December 1, 1959;

(22) the term "United States" means the several States of the Union, the District of Columbia, the Commonwealth of Puerto Rico, American Samoa, the Virgin Islands, Guam, the Commonwealth of the Northern Mariana Islands, and any other commonwealth, territory, or possession of the United States; and

(23) the term "vessel subject to the jurisdiction of the United States" includes any "vessel of the United States" and any "vessel subject to the jurisdiction of the United States" as those terms are defined in section 303 of the Antarctic Marine Living Resources Convention Act of 1984 (16 U.S.C. 2432).

SEC. 4. [16 U.S.C. 2403] PROHIBITED ACTS.

(a) IN GENERAL.—It is unlawful for any person—

(1) to introduce any prohibited product onto land or ice shelves or into water in Antarctica;

(2) to dispose of any waste onto ice-free land areas or into fresh water systems in Antarctica;

(3) to dispose of any prohibited waste in Antarctica;

(4) to engage in open burning of waste;

(5) to transport passengers to, from, or within Antarctica by any seagoing vessel not required to comply with the Act to Prevent Pollution from Ships (33 U.S.C. 1901 et seq.), unless the person has an agreement with the vessel owner or operator under which the owner or operator is required to comply with Annex IV to the Protocol;

(6) who organizes, sponsors, operates, or promotes a non-governmental expedition to Antarctica, and who does business in the United States, to fail to notify all members of the expedition of the environmental protection obligations of this Act, and of actions which members must take, or not take, in order to comply with those obligations;

(7) to damage, remove, or destroy a historic site or monument;

(8) to refuse permission to any authorized officer or employee of the United States to board a vessel, vehicle, or aircraft of the United States, or subject to the jurisdiction of the United States, for the purpose of conducting any search or inspection in connection with the enforcement of this Act or any regulation promulgated or permit issued under this Act;

(9) to forcibly assault, resist, oppose, impede, intimidate, or interfere with any authorized officer or employee of the United States in the conduct of any search or inspection described in paragraph (8);

(10) to resist a lawful arrest or detention for any act prohibited by this section;

(11) to interfere with, delay, or prevent, by any means, the apprehension, arrest, or detention of another person, knowing that such other person has committed any act prohibited by this section;

(12) to violate any regulation issued under this Act, or any term or condition of any permit issued to that person under this Act; or

(13) to attempt to commit or cause to be committed any act prohibited by this section.

(b) ACTS PROHIBITED UNLESS AUTHORIZED BY PERMIT.—It is unlawful for any person, unless authorized by a permit issued under this Act—

(1) to dispose of any waste in Antarctica (except as otherwise authorized by the Act to Prevent Pollution from Ships) including—

(A) disposing of any waste from land into the sea in Antarctica; and

(B) incinerating any waste on land or ice shelves in Antarctica, or on board vessels at points of embarkation or debarkation, other than through the use at remote field sites of incinerator toilets for human waste;

(2) to introduce into Antarctica any member of a nonnative species;

(3) to enter or engage in activities within any Antarctic Specially Protected Area;

(4) to engage in any taking or harmful interference in Antarctica; or

(5) to receive, acquire, transport, offer for sale, sell, purchase, import, export, or have custody, control, or possession of, any native bird, native mammal, or native plant which the person knows, or in the exercise of due care should have known, was taken in violation of this Act.

(c) EXCEPTION FOR EMERGENCIES.—No act described in subsection (a)(1), (2), (3), (4), (5), (7), (12), or (13) or in subsection (b) shall be unlawful if the person committing the act reasonably believed that the act was committed under emergency circumstances involving the safety of human life or of ships, aircraft, or equipment or facilities of high value, or the protection of the environment.

SEC. 4A. [16 U.S.C. 2403a] ENVIRONMENTAL IMPACT ASSESSMENT.

(a) FEDERAL ACTIVITIES.—(1)(A) The obligations of the United States under Article 8 of and Annex I to the Protocol shall be im-

plemented by applying the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) to proposals for Federal agency activities in Antarctica, as specified in this section.

(B) The obligations contained in section 102(2)(C) of the National Environmental Policy Act of 1969 (42 U.S.C. 4332(2)(C)) shall apply to all proposals for Federal agency activities occurring in Antarctica and affecting the quality of the human environment in Antarctica or dependent or associated ecosystems, only as specified in this section. For purposes of the application of such section 102(2)(C) under this subsection, the term "significantly affecting the quality of the human environment" shall have the same meaning as the term "more than a minor or transitory impact".

(2)(A) Unless an agency which proposes to conduct a Federal activity in Antarctica determines that the activity will have less than a minor or transitory impact, or unless a comprehensive environmental evaluation is being prepared in accordance with subparagraph (C), the agency shall prepare an initial environmental evaluation in accordance with Article 2 of Annex I to the Protocol.

(B) If the agency determines, through the preparation of the initial environmental evaluation, that the proposed Federal activity is likely to have no more than a minor or transitory impact, the activity may proceed if appropriate procedures are put in place to assess and verify the impact of the activity.

(C) If the agency determines, through the preparation of the initial environmental evaluation or otherwise, that a proposed Federal activity is likely to have more than a minor or transitory impact, the agency shall prepare and circulate a comprehensive environmental evaluation in accordance with Article 3 of Annex I to the Protocol, and shall make such comprehensive environmental evaluation publicly available for comment.

(3) Any agency decision under this section on whether a proposed Federal activity, to which paragraph (2)(C) applies, should proceed, and, if so, whether in its original or in a modified form, shall be based on the comprehensive environmental evaluation as well as other considerations which the agency, in the exercise of its discretion, considers relevant.

(4) For the purposes of this section, the term "Federal activity" includes all activities conducted under a Federal agency research program in Antarctica, whether or not conducted by a Federal agency.

(b) FEDERAL ACTIVITIES CARRIED OUT JOINTLY WITH FOREIGN GOVERNMENTS.—(1) For the purposes of this subsection, the term "Antarctic joint activity" means any Federal activity in Antarctica which is proposed to be conducted, or which is conducted, jointly or in cooperation with one or more foreign governments. Such term shall be defined in regulations promulgated by such agencies as the President may designate.

(2) Where the Secretary of State, in cooperation with the lead United States agency planning an Antarctic joint activity, determines that—

(A) the major part of the joint activity is being contributed by a government or governments other than the United States;

(B) one such government is coordinating the implementation of environmental impact assessment procedures for that activity; and

(C) such government has signed, ratified, or acceded to the Protocol, the requirements of subsection (a) of this section shall not apply with respect to that activity.

(3) In all cases of Antarctic joint activity other than those described in paragraph (2), the requirements of subsection (a) of this section shall apply with respect to that activity, except as provided in paragraph (4).

(4) Determinations described in paragraph (2), and agency actions and decisions in connection with assessments of impacts of Antarctic joint activities, shall not be subject to judicial review.

(c) NONGOVERNMENTAL ACTIVITIES.—(1) The Administrator shall, within 2 years after the date of the enactment of the Antarctic Science, Tourism, and Conservation Act of 1996, promulgate regulations to provide for—

(A) the environmental impact assessment of nongovernmental activities, including tourism, for which the United States is required to give advance notice under paragraph 5 of Article VII of the Treaty; and

(B) coordination of the review of information regarding environmental impact assessment received from other Parties under the Protocol.

(2) Such regulations shall be consistent with Annex I to the Protocol.

(d) DECISION TO PROCEED.—(1) No decision shall be taken to proceed with an activity for which a comprehensive environmental evaluation is prepared under this section unless there has been an opportunity for consideration of the draft comprehensive environmental evaluation at an Antarctic Treaty Consultative Meeting, except that no decision to proceed with a proposed activity shall be delayed through the operation of this paragraph for more than 15 months from the date of circulation of the draft comprehensive environmental evaluation pursuant to Article 3(3) of Annex I to the Protocol.

(2) The Secretary of State shall circulate the final comprehensive environmental evaluation, in accordance with Article 3(6) of Annex I to the Protocol, at least 60 days before the commencement of the activity in Antarctica.

(e) CASES OF EMERGENCY.—The requirements of this section, and of regulations promulgated under this section, shall not apply in cases of emergency relating to the safety of human life or of ships, aircraft, or equipment and facilities of high value, or the protection of the environment, which require an activity to be undertaken without fulfilling those requirements.

(f) EXCLUSIVE MECHANISM.—Notwithstanding any other provision of law, the requirements of this section shall constitute the sole and exclusive statutory obligations of the Federal agencies with regard to assessing the environmental impacts of proposed Federal activities occurring in Antarctica.

(g) DECISIONS ON PERMIT APPLICATIONS.—The provisions of this section requiring environmental impact assessments (including initial environmental evaluations and comprehensive environmental evaluations) shall not apply to Federal actions with respect to issuing permits under section 5.

(h) PUBLICATION OF NOTICES.—Whenever the Secretary of State makes a determination under paragraph (2) of subsection (b) of this section, or receives a draft comprehensive environmental evaluation in accordance with Annex I, Article 3(3) to the Protocol, the Secretary of State shall cause timely notice thereof to be published in the Federal Register.

SEC. 5. [16 U.S.C. 2404] PERMITS.

(a) IN GENERAL.—The Director may issue permits which authorize acts otherwise prohibited by section 4(b).

(b) APPLICATIONS FOR PERMITS.—(1) Applications for permits under this section shall be made in such manner and form, and shall contain such information, as the Director shall by regulation prescribe.

(2) The Director shall publish notice in the Federal Register of each application which is made for a permit under this section. The notice shall invite the submission by interested parties, within 30 days after the date of publication of the notice, of written data, comments, or views with respect to the application. Information received by the Director as a part of any application shall be available to the public as a matter of public record.

(c) ACTION BY APPROPRIATE SECRETARIES ON CERTAIN PERMIT APPLICATIONS.—(1) If the Director receives an application for a permit under this section requesting authority to undertake any action with respect to—

(A) any native mammal which is a marine mammal within the meaning of section 3(5) of the Marine Mammal Protection Act of 1972 (16 U.S.C. 1362(5));

(B) any native mammal, native bird, or native plant which is an endangered species or threatened species under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.); or

(C) any native bird which is protected under the Migratory Bird Treaty Act (16 U.S.C. 701 et seq.);

the Director shall submit a copy of the application to the Secretary of Commerce or to the Secretary of the Interior, as appropriate (hereinafter in this subsection referred to respectively as the “appropriate Secretary”).

(2) After receiving a copy of any application from the Director under paragraph (1) the appropriate Secretary shall promptly determine, and notify the Director, whether or not any action proposed in the application also requires a permit or other authorization under any law administered by the appropriate Secretary.

(3) If the appropriate Secretary notifies the Director that any action proposed in the application requires a permit or other authorization under any law administered by the appropriate Secretary, the Director may not issue a permit under this section with respect to such action unless such other required permit or authorization is issued by the appropriate Secretary and a copy thereof is submitted to the Director. The issuance of any permit or other authorization by the appropriate Secretary for the carrying out of any action with respect to any native mammal, native bird, or native plant shall not be deemed to entitle the applicant concerned to the issuance by the Director of a permit under this section.

(d) ISSUANCE OF PERMITS.—As soon as practicable after receiving any application for a permit under this section, or, in the case

of any application to which subsection (c) applies, as soon as practicable after the applicable requirements of such subsection are complied with, the Director shall issue, or deny the issuance of, the permit. Within 10 days after the date of the issuance or denial of a permit under this subsection, the Director shall publish notice of the issuance or denial in the Federal Register.

(e)¹ TERMS AND CONDITIONS OF PERMITS.—(1) Each permit issued under this section shall—

(A) if applicable, specify—

(i) the number and species of native mammals, native birds, native plants, or native invertebrates to which the permit applies, and

(ii) the manner in which the taking or harmful interference shall be conducted (which manner shall be determined by the Director to be humane) and the area in which it will be conducted;

(B) the period during which the permit is valid; and

(C) such other terms and conditions as the Director deems necessary and appropriate to ensure that any act authorized under the permit is carried out in a manner consistent with the purpose of this Act, the criteria set forth in paragraph (2), if applicable, and the regulations prescribed under this Act.

(2) The terms and conditions imposed by the Director in any permit issued under this section that authorizes any of the following acts shall be consistent with the following criteria:

(A) Permits authorizing the taking or harmful interference within Antarctica of any native mammal or native bird (other than a Specially Protected Species of any such mammal or bird)—

(i) may be issued only for the purpose of providing—

(I) specimens for scientific study or scientific information, or

(II) specimens for museums, zoological gardens, or other educational or cultural institutions or uses, or

(III) for unavoidable consequences of scientific activities or the construction and operation of scientific support facilities; and

(ii) shall ensure, as far as possible, that—

(I) no more native mammals and native birds are taken in any year than can normally be replaced by net natural reproduction in the following breeding season, and

(II) the variety of species and the balance of the natural ecological systems within Antarctica are maintained.

(B) Permits authorizing the taking of Specially Protected Species may be issued only if—

(i) there is a compelling scientific purpose for such taking; and

(ii) the actions allowed under any such permit will not jeopardize any existing natural ecological system, or the survival, of such species.

¹So in original. Two subsections (e) have been enacted.

(C) A permit authorizing the entry into an Antarctic Specially Protected Area shall be issued only—

(i) if the entry is consistent with an approved management plan, or

(ii) if a management plan relating to the area has not been approved but—

(I) there is a compelling purpose for such entry which cannot be served elsewhere, and

(II) the actions allowed under the permit will not jeopardize the natural ecological system existing in such area.

(e)¹ JUDICIAL REVIEW.—Any applicant for a permit may obtain judicial review of the terms and conditions of any permit issued by the Director under this section or of the refusal of the Director to issue such a permit. Such review, which shall be pursuant to chapter 7 of title 5, United States Code, may be initiated by filing a petition for review in the United States district court for the district wherein the applicant for a permit resides, or has his principal place of business, or in the United States District Court for the District of Columbia, within 60 days after the date on which such permit is issued or denied.

(f)(1) MODIFICATION, SUSPENSION, AND REVOCATION.—The Director may modify, suspend, or revoke, in whole or part, any permit issued under this section—

(A) in order to make the permit consistent with any change made after the date of issuance of the permit, to any regulation prescribed under section 6;

(B) if there is any change in conditions which makes the permit inconsistent with the purpose of this Act; or

(C) in any case in which there has been any violation of any term or condition of the permit, any regulation prescribed under this Act, or any provision of this Act.

(2) Wherever the Director proposes any modification, suspension, or revocation of a permit under this subsection, the permittee shall be afforded opportunity, after due notice, for a hearing by the Director with respect to such proposed modification, suspension, or revocation. If a hearing is requested, the action proposed by the Director shall not take effect before a decision is issued by him after the hearing, unless the proposed action is taken by the Director to meet an emergency situation. Any action taken by the Director after such a hearing is subject to judicial review on the same basis as is provided for with respect to permit applications under subsection (e).

(3) Notice of the modification, suspension, or revocation of any permit by the Director shall be published in the Federal Register within 10 days from the date of the Director's decision.

(g) PERMIT FEES.—The Director may establish and charge fees for processing applications for permits under this section. The amount of such fees shall be commensurate with the administrative costs incurred by the Director in undertaking such processing.

SEC. 6. [16 U.S.C. 2405] REGULATIONS.

(a) REGULATIONS TO BE ISSUED BY THE DIRECTOR.—(1) The Director shall issue such regulations as are necessary and appro-

¹So in original. Two subsections (e) have been enacted.

priate to implement Annex II and Annex V to the Protocol and the provisions of this Act which implement those annexes, including section 4(b)(2), (3), (4), and (5) of this Act. The Director shall designate as native species—

- (A) each species of the class Aves;
- (B) each species of the class Mammalia; and
- (C) each species of plant,

which is indigenous to Antarctica or which occurs there seasonally through natural migrations.

(2) The Director, with the concurrence of the Administrator, shall issue such regulations as are necessary and appropriate to implement Annex III to the Protocol and the provisions of this Act which implement that Annex, including section 4(a)(1), (2), (3), and (4), and section 4(b)(1) of this Act.

(3) The Director shall issue such regulations as are necessary and appropriate to implement Article 15 of the Protocol with respect to land areas and ice shelves in Antarctica.

(4) The Director shall issue such additional regulations as are necessary and appropriate to implement the Protocol and this Act, except as provided in subsection (b).

(b) REGULATIONS TO BE ISSUED BY THE SECRETARY OF THE DEPARTMENT IN WHICH THE COAST GUARD IS OPERATING.—The Secretary of the Department in which the Coast Guard is operating shall issue such regulations as are necessary and appropriate, in addition to regulations issued under the Act to Prevent Pollution from Ships (33 U.S.C. 1901 et seq.), to implement Annex IV to the Protocol and the provisions of this Act which implement that Annex, and, with the concurrence of the Director, such regulations as are necessary and appropriate to implement Article 15 of the Protocol with respect to vessels.

(c) TIME PERIOD FOR REGULATIONS.—The regulations to be issued under subsection (a)(1) and (2) of this section shall be issued within 2 years after the date of the enactment of the Antarctic Science, Tourism, and Conservation Act of 1996. The regulations to be issued under subsection (a)(3) of this section shall be issued within 3 years after the date of the enactment of the Antarctic Science, Tourism, and Conservation Act of 1996.

SEC. 7. [16 U.S.C. 2406] NOTIFICATION OF TRAVEL TO ANTARCTICA.

The Secretary of State shall prescribe such regulations as may be necessary and appropriate to implement, with respect to United States citizens, paragraph 5 of Article VII of the Treaty pertaining to the filing of advance notifications of expeditions to, and within, Antarctica. For purposes of this section, the term "United States citizen" shall include any foreign person who organizes within the United States any expedition which will proceed to Antarctica from the United States.

SEC. 8. [16 U.S.C. 2407] CIVIL PENALTIES.

(a) ASSESSMENT OF PENALTIES.—Any person who is found by the Director, after notice and opportunity for a hearing in accordance with subsection (b), to have committed any act prohibited by section 4(a) or to have violated any regulation prescribed under section 7 shall be liable to the United States for a civil penalty. The amount of the civil penalty shall not exceed \$5,000 for each violation unless the prohibited act was knowingly committed, in which

case the amount of the civil penalty shall not exceed \$10,000 for each violation. Each day of a continuing violation shall constitute a separate offense. The amount of any civil penalty shall be assessed by the Director by written notice. Any civil penalty assessed under this subsection may be remitted or mitigated by the Director.

(b) HEARINGS.—Hearings for the assessment of civil penalties under subsection (a) shall be conducted in accordance with section 554 of title 5, United States Code. For the purposes of conducting any such hearing, the Director may issue subpoenas for the attendance and testimony of witnesses and the production of relevant papers, books, and documents, and may administer oaths. Witnesses summoned shall be paid the same fees and mileage that are paid to witnesses in the courts of the United States. In case of contumacy or refusal to obey a subpoena served upon any person pursuant to this subsection, the district court of the United States for any district in which such person is found, resides, or transacts business, upon application by the United States and after notice to such person, shall have jurisdiction to issue an order requiring such person to appear and give testimony before the Director or to appear and produce documents before the Director, or both, and any failure to obey such order of the court may be punished by such court as a contempt thereof.

(c) REVIEW.—Upon the failure of any person against whom a civil penalty is assessed under subsection (a) to pay such penalty, the Director may request the Attorney General to institute a civil action in a district court of the United States for any district in which such person is found, resides, or transacts business to collect the penalty and such court shall have jurisdiction to hear and decide any such action. The court shall hear such action on the record made before the Director and shall sustain the decision of the Director if it is supported by substantial evidence on the record considered as a whole.

(d) PENALTIES UNDER OTHER LAWS.—The assessment of a civil penalty under subsection (a) for any act shall not be deemed to preclude the assessment of a civil penalty for such act under any other law, including, but not limited to, the Marine Mammal Protection Act of 1972, the Endangered Species Act of 1973, and the Migratory Bird Treaty Act.

SEC. 9. [16 U.S.C. 2408] CRIMINAL OFFENSES.

(a) OFFENSES.—A person is guilty of an offense if he willfully commits any act prohibited by section 4(a).

(b) PUNISHMENT.—Any offense described in subsection (a) is punishable by a fine of \$10,000, or imprisonment for not more than one year, or both.

(c) OFFENSES UNDER OTHER LAWS.—A conviction under subsection (a) for any act shall not be deemed to preclude a conviction for such act under any other law, including, but not limited to, the Marine Mammal Protection Act of 1972, the Endangered Species Act of 1973, and the Migratory Bird Treaty Act.

SEC. 10. [16 U.S.C. 2409] ENFORCEMENT.

(a) RESPONSIBILITY.—The provisions of this Act and of any regulation prescribed, or permit issued, under this Act shall be enforced by the Director, the Secretary of the Treasury, the Secretary of Commerce, the Secretary of Interior, and the Secretary of the de-

partment in which the Coast Guard is operating. The Director and such Secretaries may utilize by agreement, on a reimbursable basis or otherwise, the personnel, services, and facilities of any other Federal agency or any State agency in the performance of such duties.

(b) **POWERS OF AUTHORIZED OFFICERS.**—Any officer who is authorized (by the Director, the Secretary of the Treasury, the Secretary of Commerce, the Secretary of the Interior, the Secretary of the department in which the Coast Guard is operating, or the head of any Federal or State agency which has entered into an agreement with the Director or any such Secretary under subsection (a)) to enforce the provisions of this Act and of any regulation or permit issued under this Act may—

(1) secure, execute, and serve any order, warrant, subpoena, or other process, which is issued under the authority of the United States;

(2) search without warrant any person, place, or conveyance where there is reasonable grounds to believe that a person has committed or is attempting to commit an act prohibited by section 4(a);

(3) seize without warrant any evidentiary item where there is reasonable grounds to believe that a person has committed or is attempting to commit any such act;

(4) offer and pay rewards for services or information which may lead to the apprehension of violators of such provisions;

(5) make inquiries, and administer to, or take from, any person an oath, affirmation, or affidavit, concerning any matter which is related to the enforcement of such provisions;

(6) detain for inspection and inspect any package, crate, or other container, including its contents, and all accompanying documents, upon importation into, or exportation from, the United States; and

(7) make an arrest with or without a warrant with respect to any act prohibited by section 4(a) if such officer has reasonable grounds to believe that the person to be arrested is committing such act in his presence or view, or has committed such act.

(c) **SEIZURE.**—Any property or item seized pursuant to subsection (b) shall be held by any person authorized by the Director, the Secretary of the Treasury, the Secretary of Commerce, the Secretary of the Interior, or the Secretary of the department in which the Coast Guard is operating pending the disposition of civil or criminal proceedings, or the institution of an action in rem for forfeiture of such property or item; except that such authorized person may, in lieu of holding such property or item, permit the owner or consignee thereof to post a bond or other satisfactory surety.

(d) **FORFEITURE.**—(1) Any animal or plant with respect to which an act prohibited by section 4(a) is committed shall be subject to forfeiture to the United States.

(2) All guns, traps, nets, and other equipment, vessels, vehicles, aircraft, and other means of transportation used in the commission of any act prohibited by section 4(a) shall be subject to forfeiture to the United States.

(3) Upon the forfeiture to the United States of any property or item described in paragraph (1) or (2), or upon the abandonment

or waiver of any claim to any such property or item, it shall be disposed of by the Director, the Secretary of the Treasury, the Secretary of Commerce, the Secretary of the Interior, or the Secretary of the department in which the Coast Guard is operating, as the case may be, in such a manner, consistent with the purposes of the Act, as may be prescribed by regulation; except that no native mammal, native bird, or native plant may be disposed of by sale to the public.

(e) APPLICATION OF CUSTOMS LAWS.—All provisions of law relating to the seizure, forfeiture, and condemnation of a vessel for violation of the customs laws, the disposition of such vessel or the proceeds from the sale thereof, and the remission or mitigation of such forfeiture, shall apply to the seizures and forfeitures incurred, or alleged to have been incurred, under the provision¹ of this Act, insofar as such provisions of law are applicable and not inconsistent with the provisions of this Act; except that all powers, rights, and duties conferred or imposed by the customs laws upon any officer or employee of the Customs Service may, for the purposes of this Act, also be exercised or performed by the Director, the Secretary of Commerce, the Secretary of the Interior, or the Secretary of the department in which the Coast Guard is operating, or by such persons as each may designate.

(f) REGULATIONS.—The Director, the Secretary of the Treasury, the Secretary of Commerce, the Secretary of the Interior, and the Secretary of the department in which the Coast Guard is operating may prescribe such regulations as may be appropriate to enforce the provisions of this Act and of any regulation prescribed or permit issued under this Act, and charge reasonable fees for the expenses of the United States incurred in carrying out inspections and in transferring, boarding, handling, or storing native mammals, native birds, native plants, animals and plants not indigenous to Antarctica, and other evidentiary items seized or forfeited under this Act.

SEC. 11. [16 U.S.C. 2410] JURISDICTION OF COURTS.

The district courts of the United States shall have exclusive jurisdiction over any case or controversy arising under the provisions of this Act or of any regulation prescribed, or permit issued, under this Act.

SEC. 12. [16 U.S.C. 2411] FEDERAL AGENCY COOPERATION.

Each Federal department or agency whose activities affect Antarctica shall utilize, to the maximum extent practicable, its authorities in furtherance of the purposes of this Act, and shall cooperate with the Director in carrying out the purposes of this Act.

SEC. 13. [16 U.S.C. 2412] RELATIONSHIP TO EXISTING TREATIES.

Nothing in this Act shall be construed as contravening or superseding the provisions of any international treaty, convention, or agreement, if such treaty, convention, or agreement is in force with respect to the United States on the date of the enactment of this Act, or of any statute which implements any such treaty, convention, or agreement.

¹ So in original. Probably should be provisions.

SEC. 14. [16 U.S.C. 2413] SAVING PROVISIONS.

(a) **REGULATIONS.**—All regulations promulgated under this Act prior to the date of the enactment of the Antarctic Science, Tourism, and Conservation Act of 1996 shall remain in effect until superseding regulations are promulgated under section 6.

(b) **PERMITS.**—All permits issued under this Act shall remain in effect until they expire in accordance with the terms of those permits.

ANTARCTIC PROTECTION ACT OF 1990

AN ACT To protect and conserve the continent of Antarctica, and for other purposes.

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

SECTION 1. [16 U.S.C. 2461 note] SHORT TITLE.

This Act may be cited as the "Antarctic Protection Act of 1990".

SEC. 2. [16 U.S.C. 2461] FINDINGS AND PURPOSE.

(a) FINDINGS.—Congress finds that—

(1) the Antarctic continent with its associated and dependent ecosystems is a distinctive environment providing a habitat for many unique species and offering a natural laboratory from which to monitor critical aspects of stratospheric ozone depletion and global climate change;

(2) Antarctica is protected by a series of international agreements, including the Antarctic Treaty and associated recommendations, the Convention on the Conservation of Antarctic Seals, and the Convention on the Conservation of Antarctic Marine Living Resources, which are intended to conserve the renewable natural resources of Antarctica and to recognize the importance of Antarctica for the conduct of scientific research;

(3) recurring and recent developments in Antarctica, including increased siting of scientific stations, poor waste disposal practices, oil spills, increased tourism, and the over-exploitation of marine living resources, have raised serious questions about the adequacy and implementation of existing agreements and domestic law to protect the Antarctic environment and its living marine resources;

(4) the parties to the Antarctic Treaty have negotiated a Convention on the Regulation of Antarctic Mineral Resources Activities which the United States has signed but not yet ratified;

(5) the Convention on the Regulation of Antarctic Mineral Resources Activities does not guarantee the preservation of the fragile environment of Antarctica and could actually stimulate movement toward Antarctic mineral resource activity;

(6) the exploitation of mineral resources in Antarctica could lead to additional degradation of the Antarctic environment, including increased risk of oil spills;

(7) the Antarctic Treaty Consultative Parties have agreed to a voluntary ban on Antarctic mineral resource activities which needs to be made legally binding;

(8) the level of scientific study, including necessary support facilities, has increased to the point that some scientific programs may be degrading the Antarctic environment; and

(9) the planned special consultative meeting of parties to the Antarctic Treaty and the imminence of the thirtieth anniversary of the Antarctic Treaty provide opportunities for the United States to exercise leadership toward protection and sound management of Antarctica.

(b) PURPOSE.—The purpose of this Act is to—

(1) strengthen substantially overall environmental protection of Antarctica;

(2) prohibit prospecting, exploration, and development of Antarctic mineral resources by United States citizens and other persons subject to the jurisdiction of the United States;

(3) urge other nations to join the United States in immediately negotiating one or more new agreements to provide an indefinite ban on all Antarctic mineral resource activities and comprehensive protection for Antarctica and its associated and dependent ecosystems; and

(4) urge all nations to consider a permanent ban on Antarctic mineral resource activities.

SEC. 3. [16 U.S.C. 2462] DEFINITIONS.

For the purposes of this Act:

(1) The term “Antarctica” means the area south of the Antarctic Convergence as defined in section 303(1) of the Antarctic Marine Living Resources Convention Act of 1984 (16 U.S.C. 2432).

(2) The term “Antarctic mineral resource activity” means prospecting, exploration, or development in Antarctica of mineral resources, but does not include scientific research within the meaning of article III of the Antarctic Treaty, done at Washington on December 1, 1959.

(3) The term “development” means any activity, including logistic support, which takes place following exploration, the purpose of which is the exploitation of specific mineral resource deposits, including processing, storage, and transport activities.

(4) The term “exploration” means any activity, including logistic support, the purpose of which is the identification or evaluation of specific mineral resource deposits. The term includes exploratory drilling, dredging, and other surface or sub-surface excavations required to determine the nature and size of mineral resource deposits and the feasibility of their development.

(5) The term “mineral resources” means all nonliving natural nonrenewable resources, including fossil fuels, minerals, whether metallic or nonmetallic, but does not include ice, water, or snow.

(6) The term “person” means any individual, corporation, partnership, trust, association, or any other entity existing or organized under the laws of the United States, or any officer, employee, agent, department, or other instrumentality of the

Federal Government or of any State or political subdivision thereof.

(7) The term "prospecting" means any activity, including logistic support, the purpose of which is the identification of mineral resource potential for possible exploration and development.

(8) The term "Under Secretary" means the Under Secretary of Commerce for Oceans and Atmosphere.

SEC. 4. [16 U.S.C. 2463] PROHIBITION OF ANTARCTIC MINERAL RESOURCE ACTIVITIES.

It is unlawful for any person to engage in, finance, or otherwise knowingly provide assistance to any Antarctic mineral resource activity.

SEC. 5. [16 U.S.C. 2465] ENFORCEMENT.

(a) **IN GENERAL.**—A violation of this Act or any regulation promulgated under this Act is deemed to be a violation of the Antarctic Marine Living Resources Convention Act (16 U.S.C. 2431–2444) and shall be enforced under that Act by the Under Secretary or another Federal official to whom the Under Secretary has delegated this responsibility.

(b) **PENALTY.**—If the Under Secretary determines that a person has violated section 4—

(1) that person shall be ineligible to locate a mining claim under the mining laws of the United States; and

(2) the Secretary of the Interior shall refuse to issue a patent under the mining laws of the United States, or a lease under the laws of the United States related to mineral or geothermal leasing, to any such person who attempts to perfect such patent or lease application after the Under Secretary has made such determination.

MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT OF 1972

(Public Law 92-532)

AN ACT To regulate the transportation for dumping, and the dumping, of material into ocean waters, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, [33 U.S.C. 1401 note] That this Act may be cited as the "Marine Protection, Research, and Sanctuaries Act of 1972".

* * * * *

TITLE II—COMPREHENSIVE RESEARCH ON OCEAN DUMPING

SEC. 201. [33 U.S.C. 1441] The Secretary of Commerce, in coordination with the Secretary of the Department in which the Coast Guard is operating and with the Administrator shall, within six months of the enactment of this Act, initiate a comprehensive and continuing program of monitoring and research regarding the effects of the dumping of material into ocean waters or other coastal waters where the tide ebbs and flows or into the Great Lakes or their connecting waters.

SEC. 202. [33 U.S.C. 1442] (a)(1) The Secretary of Commerce, in close consultation with other appropriate Federal departments, agencies, and instrumentalities shall, within six months of the enactment of this Act, initiate a comprehensive and continuing program of research with respect to the possible long-range effects of pollution, overfishing, and man-induced changes of ocean ecosystems. These responsibilities shall include the scientific assessment of damages to the natural resources from spills of petroleum or petroleum products. In carrying out such research, the Secretary of Commerce shall take into account such factors as existing and proposed international policies affecting oceanic problems, economic considerations involved in both the protection and the use of the oceans, possible alternatives to existing programs, and ways in which the health of the oceans may best be preserved for the benefit of succeeding generations of mankind.

(2) The Secretary of Commerce shall ensure that the program under this section complements, when appropriate, the activities undertaken by other Federal agencies pursuant to title I and section 203. That program shall include but not be limited to—

(A) the development and assessment of scientific techniques to define and quantify the degradation of the marine environment;

(B) the assessment of the capacity of the marine environment to receive materials without degradation;

(C) continuing monitoring programs to assess the health of the marine environment, including but not limited to the monitoring of bottom oxygen concentrations, contaminant levels in biota, sediments, and the water column, diseases in fish and shellfish, and changes in types and abundance of indicator species;

(D) the development of methodologies, techniques, and equipment for disposal of waste materials to minimize degradation of the marine environment.

(3) The Secretary of Commerce shall ensure that the comprehensive and continuing research program conducted under this subsection is consistent with the comprehensive plan for ocean pollution research and development and monitoring prepared under section 4 of the National Ocean Pollution Planning Act of 1978 (33 U.S.C. 1703).

(b) In carrying out his responsibilities under this section, the Secretary of Commerce, under the foreign policy guidance of the President and pursuant to international agreements and treaties made by the President with the advice and consent of the Senate, may act alone or in conjunction with any other nation or group of nations, and shall make known the results of his activities by such channels of communication as may appear appropriate.

(c) Each department, agency, and independent instrumentality of the Federal Government is authorized and directed to cooperate with the Secretary of Commerce in carrying out the purposes of this section and, to the extent permitted by law, to furnish such information as may be requested.

(d) The Secretary of Commerce, in carrying out his responsibilities under this section, shall, to the extent feasible utilize the personnel, services, and facilities of other Federal departments, agencies, and instrumentalities (including those of the Coast Guard for monitoring purposes), and is authorized to enter into appropriate inter-agency agreements to accomplish this action.

SEC. 203. [33 U.S.C. 1443] (a) The Administrator of the Environmental Protection Agency shall—

(1) conduct research, investigations, experiments, training, demonstrations, surveys, and studies for the purpose of—

(A) determining means of minimizing or ending, as soon as possible after the date of the enactment of this section, the dumping into ocean waters, or waters described in section 101(b), of material which may unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities, and

(B) developing disposal methods as alternatives to the dumping described in subparagraph (A); and

(2) encourage, cooperate with, promote the coordination of, and render financial and other assistance to appropriate public authorities, agencies, and institutions (whether Federal, State, interstate, or local), and appropriate private agencies, institu-

tions, and individuals in the conduct of research and other activities described in paragraph (1).

(b) Nothing in this section shall be construed to affect in any way the December 31, 1981, termination date, established in section 4 of the Act of November 4, 1977 (Public Law 95-153; 33 U.S.C. 1412a), for the ocean dumping or sewage sludge.

(c) The Administrator, in cooperation with the Secretary, the Secretary of Commerce, and other officials of appropriate Federal, State, and local agencies, shall assess the feasibility in coastal areas of regional management plans for the disposal of waste materials. Such plans should integrate where appropriate Federal, State, regional, and local waste disposal activities into a comprehensive regional disposal strategy. These plans should address, among other things—

(1) the sources, quantities, and types of materials that require and will require disposal;

(2) the environmental, economic, social, and human health factors (and the methods used to assess these factors) associated with disposal alternatives;

(3) the improvements in production processes, methods of disposal, and recycling to reduce the adverse effects associated with such disposal alternatives;

(4) the applicable laws and regulations governing waste disposal; and

(5) improvements in permitting processes to reduce administrative burdens.

(d) The Administrator, in cooperation with the Secretary of Commerce, shall submit to the Congress and the President, not later than one year after the date of enactment of this provision, a report on sewage sludge disposal in the New York City metropolitan region. The report shall—

(1) consider the factors listed in subsection (c) as they relate to landfilling, incineration, ocean dumping, or any other feasible disposal or reuse/recycling option;

(2) include an assessment of the cost of these alternatives; and

(3) recommend such regulatory or legislative changes as may be necessary to reduce the adverse impacts associated with sewage sludge disposal.

ANNUAL REPORT

SEC. 204. [33 U.S.C. 1444] (a) In March of each year, the Secretary of Commerce shall report to the Congress on his activities under this title during the previous fiscal year. The report shall include—

(1) the Secretary's findings made under section 201, including an evaluation of the short-term ecological effects and the social and economic factors involved with the dumping;

(2) the results of activities undertaken pursuant to section 202;

(3) with the concurrence of the Administrator and after consulting with officials of other appropriate Federal agencies, an identification of the short- and long-term research requirements associated with activities under title I, and a description

of how Federal research under titles I and II will meet those requirements; and

(4) activities of the Department of Commerce under section 5 of the Act of March 10, 1934 (48 Stat. 401; 16 U.S.C. 665).

(b) In March of each year, the Administrator shall report to the Congress on his activities during the previous fiscal year under section 203.

(c) On October 31 of each year, the Under Secretary shall report to the Congress the specific programs that the National Oceanic and Atmospheric Administration and the Environmental Protection Agency carried out pursuant to this title in the previous fiscal year, specifically listing the amount of funds allocated to those specific programs in the previous fiscal year.

SEC. 205. [33 U.S.C. 1445] There are authorized to be appropriated for the first fiscal year after this Act is enacted and for the next two fiscal years thereafter such sums as may be necessary to carry out this title, but the sums appropriated for any such fiscal year may not exceed \$6,000,000. There are authorized to be appropriated not to exceed \$1,500,000 for the transition period (July 1 through September 30, 1976), not to exceed \$5,600,000 for fiscal year 1977, not to exceed \$6,500,000 for fiscal year 1978, not to exceed \$11,396,000 for fiscal year 1981, and not to exceed \$12,000,000 for fiscal year 1982, not to exceed \$10,635,000 for fiscal year 1986, not to exceed \$11,114,000 for fiscal year 1987, not to exceed \$13,500,000 for fiscal year 1989, and not to exceed \$14,500,000 for fiscal year 1990.

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TITLE IV—REGIONAL MARINE RESEARCH PROGRAMS

PURPOSES

SEC. 401. [16 U.S.C. 1447] The purpose of this title is to establish regional research programs, under effective Federal oversight, to—

(1) set priorities for regional marine and coastal research in support of efforts to safeguard the water quality and ecosystem health of each region; and

(2) carry out such research through grants and improved coordination.

DEFINITIONS

SEC. 402. [16 U.S.C. 1447a] As used in this title, the term—

(1) “Board” means any Regional Marine Research board established pursuant to section 403(a);

(2) “Federal agency” means any department, agency, or other instrumentality of the Federal Government, including any independent agency or establishment of the Federal Government and any government corporation;

(3) “local government” means any city, town, borough, county, parish, district, or other public body which is a political subdivision of a State and which is created pursuant to State law;

(4) “marine and coastal waters” means estuaries, waters of the estuarine zone, including wetlands, any other waters sea-

ward of the historic height of tidal influence, the territorial seas, the contiguous zone, and the ocean;

(5) "nonprofit organization" means any organization, association, or institution described in section 501(c)(3) of the Internal Revenue Code of 1954 which is exempt from taxation pursuant to section 501(a) of such Code;

(6) "region" means 1 of the 9 regions described in section 403(a); and

(7) "State" means a State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

REGIONAL MARINE RESEARCH BOARDS

SEC. 403. [16 U.S.C. 1447b] (a) ESTABLISHMENT.—A Regional Marine Research board shall be established for each of the following regions:

(1) the Gulf of Maine region, comprised of the marine and coastal waters off the State of Maine, New Hampshire, and Massachusetts (north of Cape Cod);

(2) the greater New York bight region, comprised of the marine and coastal waters off the States of Massachusetts (south of Cape Cod), Rhode Island, Connecticut, New York, and New Jersey, from Cape Cod to Cape May;

(3) the mid-Atlantic region, comprised of the marine and coastal waters off the States of New Jersey, Delaware, Maryland, Virginia, and North Carolina, from Cape May to Cape Fear;

(4) the South Atlantic region, comprised of the marine and coastal waters off the States of North Carolina, South Carolina, Georgia, and Florida, from Cape Fear to the Florida Keys, including the marine and coastal waters off Puerto Rico and the United States Virgin Islands;

(5) the Gulf of Mexico region, comprised of the marine and coastal waters off the States of Florida, Alabama, Mississippi, Louisiana, and Texas, along the Gulf coast from the Florida Keys to the Mexican border;

(6) the California region, comprised of the marine and coastal waters off the State of California, from Point Reyes to the Mexican border;

(7) the North Pacific region, comprised of the marine and coastal waters off the States of California, Oregon, and Washington, from Point Reyes to the Canadian border;

(8) the Alaska region, comprised of the marine and coastal waters off the State of Alaska; and

(9) insular Pacific region, comprised of the marine and coastal waters off the State of Hawaii, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

The Great Lakes Research Office authorized under section 118(d) of the Federal Water Pollution Control Act (33 U.S.C. 1268(d)) shall be responsible for research in the Great Lakes region and shall be considered the Great Lakes counterpart to the research program established pursuant to this title.

(b) MEMBERSHIP.—

(1) COMPOSITION.—Each Board shall be comprised of 11 members of which—

(A) 3 members shall be appointed by the Administrator of the National Oceanic and Atmospheric Administration, including 1 member who shall be a Sea Grant Program Director from a State within such region, who shall serve as chairman of the board;

(B) 2 members shall be appointed by the Administrator of the Environmental Protection Agency; and

(C) 6 members shall be appointed by Governors of States located within the region.

(2) QUALIFICATIONS.—Each individual appointed as a member of a Board shall possess expertise, pertinent to the region concerned, in scientific research, coastal zone management, fishery management, water quality management, State and local government, or any other area which is directly relevant to the functions of the Board. A majority of the members of each Board shall be trained in a field of marine or aquatic science and shall be currently engaged in research or research administration.

(3) TERMS.—Each appointed member of a Board shall serve for a term of 4 years.

(4) VACANCIES.—In the event of a vacancy, a replacement member shall be appointed in the same manner and in accordance with the same requirements as the member being replaced and shall serve the remainder of the term of the replaced member.

(5) REIMBURSEMENT OF EXPENSES.—Each appointed member of a Board may be paid actual travel expenses, and per diem in lieu of subsistence expenses when away from the member's usual place of residence, in accordance with section 5703 of title 5, United States Code, when engaged in the actual performance of Board duties.

(c) FUNCTIONS.—Each Board shall, in accordance with the provisions of this title—

(1) develop and submit to the Administrators of the National Oceanic and Atmospheric Administration and the Environmental Protection Agency a marine research plan, including periodic amendments thereto, that meets the requirements of section 404;

(2) provide a forum for coordinating research among research institutions and agencies;

(3) provide for review and comment on research plans by affected users and interests, such as the commercial and recreational fishing industries, other marine industries, State and local government entities, and environmental organizations;

(4) ensure that the highest quality of research projects will be conducted to carry out the comprehensive plan; and

(5) prepare, for submission to Congress, a periodic report on the marine environmental research issues and activities within the region in accordance with section 406 of this title.

(d) POWERS.—Each Board shall be authorized to—

(1) cooperate with Federal agencies, with States and with local government entities, interstate and regional agencies, other public agencies and authorities, nonprofit institutions,

laboratories, and organizations, or other appropriate persons, in the preparation and support of marine research in the region;

(2) enter into contracts, cooperative agreements or grants to State and local governmental entities, other public agencies or institutions, and non-profit institutions and organizations for purposes of carrying out the provisions of this title;

(3) collect and make available through publications and other appropriate means, the results of, and other information pertaining to, the research conducted in the region;

(4) call conferences on regional marine research and assessment issues, giving opportunity for interested persons to be heard and present papers at such conferences;

(5) develop and stimulate, in consultation with the Department of State, joint marine research projects with foreign nations;

(6) utilize facilities and personnel of existing Federal agencies, including scientific laboratories and research facilities;

(7) accept, and for all general purposes of this Act, utilize funds from other sources, including but not limited to State and local funds, university funds, and donations; and

(8) acquire secret processes, inventions, patent applications, patents, licenses, and property rights, by purchase, license, lease, or donation.

(e) ADMINISTRATION.—

(1) PRACTICES AND PROCEDURES.—Each Board shall determine its organization, and prescribe its practices and procedures for carrying out its functions under this title. Each Board should use existing research administrative capability to the extent practicable.

(2) COMMITTEES AND SUBCOMMITTEES.—Each Board shall establish such committees and subcommittees as are appropriate in the performance of its functions.

(3) STAFF AND SUPPORT.—Each Board is authorized to hire such staff as are necessary to carry out the functions of the Board.

(f) TERMINATION.—Each Board shall cease to exist on October 1, 1999, unless extended by Congress.

REGIONAL RESEARCH PLANS

SEC. 404. [16 U.S.C. 1447c] (a) DEVELOPMENT AND AMENDMENT OF REGIONAL PLANS.—

(1) IN GENERAL.—Each Board shall develop a comprehensive 4-year marine research plan for the region for which the Board is responsible, and shall amend the plan at such times as the Board considers necessary to reflect changing conditions, but no less frequently than once every 4 years.

(2) REVIEW AND CONSIDERATION OF NATIONAL PLAN.—In the development and amendment of its research plan, the Board shall consider findings and recommendations of the national plan developed pursuant to the National Ocean Pollution Planning Act of 1978 33 U.S.C. 1701 et seq.).

(b) CONTENTS OF PLAN.—Such marine research plan shall include—

(1) an overview of the environmental quality conditions in the coastal and marine waters of the region and expected trends in these conditions;

(2) a comprehensive inventory and description of all marine research related to water quality and ecosystem health expected to be conducted in the region during the 4-year term of the research plan;

(3) a statement and explanation of the marine research needs and priorities applicable to the marine and coastal waters of the region over the upcoming 10-year period with emphasis on the upcoming 3-to-5 year period;

(4) an assessment of how the plan will incorporate existing marine, coastal, and estuarine research and management in the region, including activities pursuant to section 320 of the Federal Water Pollution Control Act 33 U.S.C. 1330) and section 315 of the Coastal Zone Management Act of 1972 (16 U.S.C. 1461); and

(5) a general description of marine research and monitoring objectives and timetables for achievement through the funding of projects under this title during the 4-year period covered by the plan so as to meet the priorities specified in the plan in accordance with paragraph (3).

(c) PLAN REVIEW AND APPROVAL.—

(1) IN GENERAL.—When a Board has developed a marine research plan, including amendments thereto, the Board shall submit the plan to the Administrator of the National Oceanic and Atmospheric Administration and the Administration of the Environmental Protection Agency, who shall jointly determine whether the plan meets the requirements of subsection (b).

(2) TIME FOR APPROVAL OR DISAPPROVAL.—The Administrator of the National Oceanic and Atmospheric Administration and the Administrator of the Environmental Protection Agency, shall jointly approve or disapprove such research plan within 120 days after receiving the plan.

(3) ACTION AFTER DISAPPROVAL.—In the case of disapproval of such research plan, the Administrator of the National Oceanic and Atmospheric Administration and the Administrator of the Environmental Protection Agency shall jointly notify the appropriate Board in writing, stating in detail the revisions necessary to obtain approval of the plan. Such Administrators shall approve or disapprove the revised plan within 90 days after receiving the revised plan from the Board.

RESEARCH GRANT PROGRAM

SEC. 405. [(16 U.S.C. 1447d)] (a) PROGRAM ADMINISTRATION.—The Administrator of the National Oceanic and Atmospheric Administration shall administer a grant program to support the administrative functions of each Board.

(b)¹ RESEARCH GRANTS.—(1) Each Board may annually submit a grant application to the Administrator of the National Oceanic and Atmospheric Administration to fund projects aimed at achieving the research priorities set forth in

¹So in original. The margins for subsection (b)(1) and (2) probably should be moved two ems to the left.

each research plan, including amendments thereto, developed and approved pursuant to section 404.

(2)¹ Projects eligible for funding under this section shall include research, investigations, studies, surveys, or demonstrations with respect to—

(A) baseline assessment of marine environmental quality, including chemical, physical, and biological indicators of environmental quality;

(B) effects or potential effects of contaminants, including nutrients, toxic chemicals and heavy metals, on the environment, including marine and aquatic organisms;

(C) effects of modification of habitats, including coastal wetlands, seagrass beds and reefs, on the environment, including marine organisms;

(D) assessment of impacts of pollutant sources and pollutant discharges into the coastal environment;

(E) transport, dispersion, transformation, and fate and effect of contaminants in the marine environment;

(F) marine and estuarine habitat assessment and restoration;

(G) methods and techniques for modeling environmental quality conditions and trends;

(H) methods and techniques for sampling of water, sediment, marine and aquatic organisms, and demonstration of such methods and techniques;

(I) the effects on human health and the environment of contaminants or combinations of contaminants at various levels, whether natural or anthropogenic, that are found in the marine environment;

(J) environmental assessment of potential effects of major coastal and offshore development projects in the region;

(K) assessment of the effects of climate change on marine resources in the region; and

(L) analysis and interpretation of research data for the benefit of State and local environmental protection and resource management agencies in the region.

(3) Grant applications submitted pursuant to this subsection shall include—

(A) a description of the specific research projects to be conducted;

(B) identification of the organization responsible for each project and the principal investigator directing the project;

(C) a budget statement for each project;

(D) a schedule of milestones and interim products for each research project;

(E) a description of the relationship of the proposed project to the goals, objectives, and priorities of the research plan for the region and to other research projects; and

(F) any other information which may be required by the Administrator.

(c) REVIEW AND APPROVAL OF PROJECT PROPOSALS.—(1) The Administrator of the National Oceanic and Atmospheric Administration shall review the annual grant application and, with the con-

¹ See footnote on previous page.

currence of the Administrator of the Environmental Protection Agency, approve such grant application with such conditions as are determined to be appropriate based on peer reviews conducted pursuant to paragraph (2).

(2) The Administrator of the National Oceanic and Atmospheric Administration shall develop a system of peer review of grant applications which shall ensure that only the highest quality research is approved for funding and that each project is reviewed by research scientists outside the region concerned.

(d) REPORTING.—Any recipient of a grant under this section shall report to the appropriate Board, not later than 18 months after award of the grant, on the activities of such recipient conducted pursuant to this subsection. Such report shall include narrative summaries and technical data in such form as the Administrator of the National Oceanic and Atmospheric Administration may require.

* * * * *

TITLE V—NATIONAL COASTAL MONITORING ACT

SEC. 501. [33 U.S.C. 2801] PURPOSES.

The purposes of this title are to—

(1) establish a comprehensive national program for consistent monitoring of the Nation's coastal ecosystems;

(2) establish long-term water quality assessment and monitoring programs for high priority coastal waters that will enhance the ability of Federal, State, and local authorities to develop and implement effective remedial programs for those waters;

(3) establish a system for reviewing and evaluating the scientific, analytical, and technological means that are available for monitoring the environmental quality of coastal ecosystems;

(4) establish methods for identifying uniform indicators of coastal ecosystem quality;

(5) provide for periodic, comprehensive reports to Congress concerning the quality of the Nation's coastal ecosystems;

(6) establish a coastal environment information program to distribute coastal monitoring information;

(7) provide state programs authorized under the Coastal Zone Management Act of 1972 (16 U.S.C. 1451 et seq.) with information necessary to design land use plans and coastal zone regulations that will contribute to the protection of coastal ecosystems; and

(8) provide certain water pollution control programs authorized under the Federal Water Pollution Control Act 33 U.S.C. 1251 et seq.) with information necessary to design and implement effective coastal water pollution controls.

SEC. 502. [33 U.S.C. 2802] DEFINITIONS.

For the purposes of this title, the term—

(1) "Administrator" means the Administrator of the Environmental Protection Agency;

(2) "coastal ecosystem" means a system of interacting biological, chemical, and physical components throughout the

water column, water surface, and benthic environment of coastal waters;

(3) "coastal water quality" means the physical, chemical and biological parameters that relate to the health and integrity of coastal ecosystems;

(4) "coastal water quality monitoring" means a continuing program of measurement, analysis, and synthesis to identify and quantify coastal water quality conditions and trends to provide a technical basis for decisionmaking;

(5) "coastal waters" means waters of the Great Lakes, including their connecting waters and those portions of rivers, streams, and other bodies of water having unimpaired connection with the open sea up to the head of tidal influence, including wetlands, intertidal areas, bays, harbors, and lagoons, including waters of the territorial sea of the United States and the contiguous zone; and

(6) "Under Secretary" means Under Secretary of Commerce for Oceans and Atmosphere.

SEC. 503. [33 U.S.C. 2803] COMPREHENSIVE COASTAL WATER QUALITY MONITORING PROGRAM.

(a) **AUTHORITY; JOINT IMPLEMENTATION.**—(1) The Administrator and the Under Secretary, in conjunction with other Federal, State, and local authorities, shall jointly develop and implement a program for the long-term collection, assimilation, and analysis of scientific data designed to measure the environmental quality of the Nation's coastal ecosystems pursuant to this section. Monitoring conducted pursuant to this section shall be coordinated with relevant monitoring programs conducted by the Administrator, Under Secretary, and other Federal, State, and local authorities.

(2) Primary leadership for the monitoring program activities conducted by the Environmental Protection Agency pursuant to this section shall be located at the Environmental Research Laboratory in Narragansett, Rhode Island.

(b) **PROGRAM ELEMENTS.**—The Comprehensive Coastal Water Quality Monitoring Program shall include, but not be limited to—

(1) identification and analysis of the status of environmental quality in the Nation's coastal ecosystems, including but not limited to, assessment of—

(A) ambient water quality, including contaminant levels in relation to criteria and standards issued pursuant to title III or the Federal Water Pollution Control Act 33 U.S.C. 1311 et seq.);

(B) benthic environmental quality, including analysis of contaminant levels in sediments in relation to criteria and standards issued pursuant to title III of the Federal Water Pollution Control Act 33 U.S.C. 1311 et seq.); and

(C) health and quality of living resources.

(2) identification of sources of environmental degradation affecting the Nation's coastal ecosystems;

(3) assessment of the impact of governmental programs and management strategies and measures designed to abate or prevent the environmental degradation of the Nation's coastal ecosystems;

(4) assessment of the accumulation of floatables along coastal shorelines;

(5) analysis of expected short-term and long-term trends in the environmental quality of the Nation's coastal ecosystems; and

(6) the development and implementation of intensive coastal water quality monitoring programs in accordance with subsection (d).

(c) MONITORING GUIDELINES AND PROTOCOLS.—

(1) GUIDELINES.—Not later than 18 months after the date of the enactment of this title, the Administrator and the Under Secretary shall jointly issue coastal water quality monitoring guidelines to assist in the development and implementation of coastal water quality monitoring programs. The guidelines shall—

(A) provide an appropriate degree of uniformity among the coastal water quality monitoring methods and data while preserving the flexibility of monitoring programs to address specific needs;

(B) establish scientifically valid monitoring methods that will—

(i) provide simplified methods to survey and assess the water quality and ecological health of coastal waters;

(ii) identify and quantify through more intensive efforts the severity of existing or anticipated problems in selected coastal waters;

(iii) identify and quantify sources of pollution that cause or contribute to those problems, including point and nonpoint sources; and

(iv) evaluate over time the effectiveness of efforts to reduce or eliminate pollution from those sources;

(C) provide for data compatibility to enable data to be efficiently stored and shared by various users; and

(D) identify appropriate physical, chemical, and biological indicators of the health and quality of coastal ecosystems.

(2) TECHNICAL PROTOCOLS.—Guidelines issued under paragraph (1) shall include protocols for—

(A) designing statistically valid coastal water quality monitoring networks and monitoring surveys, including assessment of the accumulation of floatables.

(B) sampling and analysis, including appropriate physical and chemical parameters, living resource parameters, and sediment analysis techniques; and

(C) quality control, quality assessment, and data consistency and management.

(3) PERIODIC REVIEW.—The Administrator and the Under Secretary shall periodically review the guidelines and protocols issued under this subsection to evaluate their effectiveness, the degree to which they continue to answer program objectives and provide an appropriate degree of uniformity while taking local conditions into account, and any need to modify or supplement them with new guidelines and protocols, as needed.

(4) DISCHARGE PERMIT DATA.—The Administrator or a State permitting authority shall ensure that compliance monitoring conducted pursuant to section 402(a)(2) of the Federal

Water Pollution Control Act 33 U.S.C. 1342(a)(2)) for permits for discharges to coastal waters is consistent with the guidelines issued under this subsection. Any modifications of discharge permits necessary to implement this subsection shall be deemed to be minor modifications of such permit. Nothing in this subsection requires dischargers to conduct monitoring other than compliance monitoring pursuant to permits under section 402(a)(2) of the Federal Water Pollution Control Act 33 U.S.C. 1342(a)(2)).

(d) INTENSIVE COASTAL WATER QUALITY MONITORING PROGRAMS.—

(1) IN GENERAL.—The Comprehensive Coastal Water Quality Monitoring Program established pursuant to this section shall include intensive coastal water quality monitoring programs developed under this subsection.

(2) DESIGNATION OF INTENSIVE MONITORING AREAS.—Not later than 24 months after the date of enactment of this title and periodically thereafter, the Administrator and the Under Secretary shall, based on recommendations by the National Research Council, jointly designate coastal areas to be intensively monitored.

(3) IDENTIFICATION OF SUITABLE COASTAL AREAS.—(A) The Administrator and the Under Secretary shall contract with the National Research Council to conduct a study to identify coastal areas suitable for the establishment of intensive coastal monitoring programs. In identifying these coastal areas, the National Research Council shall consider areas that—

(i) are representatives of coastal ecosystems throughout the United States;

(ii) will provide information to assess the status and trends of coastal water quality nation-wide; and

(iii) would benefit from intensive water quality monitoring because of local management needs.

(B) In making recommendations under this paragraph, the National Research Council shall consult with Regional Research Boards established pursuant to title IV of this Act.

(C) The National Research Council shall, within 18 months of the date of enactment of this title, submit a report to the Administrator and the Under Secretary listing areas suitable for intensive monitoring.

(D) The Administrator and the Under Secretary, in conjunction with other Federal, State, and local authorities, shall develop and implement multi-year programs of intensive monitoring for Massachusetts and Cape Cod Bays, the Gulf of Maine, the Chesapeake Bay, the Hudson-Raritan Estuary, and each area jointly designated by the Administrator and the Under Secretary pursuant to paragraph (2).

(4) INTENSIVE COASTAL WATER QUALITY MONITORING PROGRAMS.—Each intensive coastal water quality monitoring program developed pursuant to this subsection shall—

(A) identify water quality conditions and problems and provide information to assist in improving coastal water quality;

(B) clearly state the goals and objectives of the monitoring program and their relationship to the water quality objectives for coastal waters covered by the program;

(C) identify the water quality and biological parameters of the monitoring program and their relationship to these goals and objectives;

(D) describe the types of monitoring networks, surveys and other activities to be used to achieve these goals and objectives, using where appropriate the guidelines issued under subsection (c);

(E) survey existing Federal, State, and local coastal monitoring activities and private compliance monitoring activities in or on the coastal waters covered by the program, describe the relationship of the program to those other monitoring activities, and integrate them, as appropriate, into the intensive monitoring program;

(F) describe the data management and quality control components of the program;

(G) specify the implementation requirements for the program, including—

(i) the lead Federal, State, or regional authority that will administer the program;

(ii) the public and private parties that will implement the program;

(iii) a detailed schedule for program implementation;

(iv) all Federal and State responsibilities for implementing the program; and

(v) the changes in Federal, State, and local monitoring programs necessary to implement the program;

(H) estimate the costs to Federal and State governments, and other participants, of implementing the monitoring program; and

(I) describe the methods to assess periodically the success of the monitoring program in meeting its goals and objectives, and the manner in which the program may be modified from time-to-time.

(5) CRITERIA FOR MONITORING MASSACHUSETTS AND CAPE COD BAYS.—In addition to the criteria listed in paragraph (4), the intensive monitoring program for Massachusetts and Cape Cod Bays shall establish baseline data on environmental phenomena (such as quantity of bacteria and quality of indigenous species, and swimmability) and determine the ecological impacts resulting from major point source discharges.

(6) MEMORANDUM OF UNDERSTANDING.—Prior to implementing any intensive coastal water quality monitoring program under this subsection, the Administrator and the Under Secretary shall enter into a Memorandum of Understanding to implement the intensive coastal water quality monitoring programs and may extend the memorandum of Understanding to include other appropriate Federal agencies. The Memorandum of Understanding shall identify the monitoring and reporting responsibilities of each agency and shall encourage the coordination of monitoring activities.

(7) IMPLEMENTATION.—(A) The Administrator, the Under Secretary, and the Governor of each State having waters subject to an intensive coastal water quality monitoring program developed pursuant to this subsection shall ensure compliance with that program.

(B)¹ The Administrator and the Under Secretary are authorized to enter into cooperative agreements to provide financial assistance to non-Federal agencies and institutions to support implementation of intensive monitoring programs under this subsection. Federal financial assistance may only be provided on the condition that not less than fifty percent of the costs of the monitoring to be conducted by a non-Federal agency or institution is provided from non-Federal funds.

(e) COMPREHENSIVE IMPLEMENTATION STRATEGY.—

(1) IN GENERAL.—Within 1 year after the date of enactment of this title, the Administrator and the Under Secretary shall jointly submit to Congress a Comprehensive Implementation Strategy identifying the current and planned activities to implement the Comprehensive Coastal Monitoring Program pursuant to this section.

(2) CONSULTATION.—The Administrator and the Under Secretary shall consult with the National Academy of Sciences, the Director of the United States Fish and Wildlife Service, the Director of the Minerals Management Service, the Commandant of the Coast Guard, the Secretary of the Navy, the Secretary of Agriculture, the heads of any other relevant Federal or regional agencies, and the Governors of coastal States in developing the Strategy.

(3) PUBLIC COMMENT.—Not less than 3 months before submitting the Strategy to Congress, the Administrator and the Under Secretary shall jointly publish a draft version of the Strategy in the Federal Register and shall solicit public comments regarding the Strategy.

(4) MEMORANDUM OF UNDERSTANDING.—Within 1 year after submission of the Strategy under paragraph (1), the Administrator and the Under Secretary shall enter into a Memorandum of Understanding with appropriate Federal agencies necessary to effect the coordination of Federal coastal monitoring programs. The Memorandum of Understanding shall identify the monitoring and reporting responsibilities of each agency and shall encourage the coordination of monitoring activities where possible.

SEC. 504. [33 U.S.C. 2804] REPORT TO CONGRESS.

On September 30 of each other year beginning in 1993, the Administrator and the Under Secretary shall jointly submit to the Committee on Commerce, Science, and Transportation and the Committee on Environment and Public Works of the Senate and the Committee on Merchant Marine and Fisheries and the Committee on Public Works and Transportation of the House of Representatives a report describing the condition of the Nation's coastal ecosystems, including the following:

¹ So in original. The margin is incorrect.

- (1) an assessment of the status and health of the Nation's coastal ecosystems;
- (2) an evaluation of environmental trends in coastal ecosystems;
- (3) identification of sources of environmental¹ degradation affecting coastal ecosystems;
- (4) an assessment of the extent to which floatables degrade coastal ecosystems, including trends in the accumulation of floatables and the threat posed by floatables to aquatic life;
- (5) an assessment of the impact of government programs designed to abate the degradation of coastal ecosystems;
- (6) an evaluation of the adequacy of monitoring programs and identification of any additional program elements which may be needed; and
- (7) a summary of monitoring results in areas monitored under subsection 503(d).

SEC. 505. [33 U.S.C. 2805] AUTHORIZATION OF APPROPRIATIONS.

(a) NOAA AUTHORIZATION.—For development and implementation of programs under this title, including financial assistance to non-Federal agencies and institutions to support implementation of intensive monitoring programs under section 503(d), there is authorized to be appropriated to the Under Secretary amounts not to exceed \$5,000,000 for fiscal year 1993, \$8,000,000 for fiscal year 1994, \$10,000,000 for fiscal year 1995, and \$12,000,000 for fiscal year 1996.

(b) EPA AUTHORIZATION.—For development and implementation of programs under this title, including financial assistance to non-Federal agencies and institutions to support implementation of intensive monitoring programs under section 503(d), there is authorized to be appropriated to the Administrator amounts not to exceed \$5,000,000 for fiscal year 1993, \$8,000,000 for fiscal year 1994, and \$10,000,000 for fiscal year 1995, and \$12,000,000 for fiscal year 1996.

¹ So in law. Probably should be "environmental".

NATIONAL SEA GRANT COLLEGE PROGRAM ACT

(Public Law 89-699; 80 Stat. 998)

TITLE II—NATIONAL SEA GRANT COLLEGE PROGRAM

SEC. 201. [33 U.S.C. 1121 note] SHORT TITLE.

This title may be cited as the “National Sea Grant College Program Act”.

SEC. 202. [33 U.S.C. 1121] DECLARATION OF POLICY.

(a) FINDINGS.—The Congress finds and declares the following:

(1) The national interest requires a strategy to—

(A) provide for the understanding and wise use of ocean, coastal, and Great Lakes resources and the environment;

(B) foster economic competitiveness;

(C) promote public stewardship and wise economic development of the coastal ocean and its margins, the Great Lakes, and the exclusive economic zone;

(D) encourage the development of forecast and analysis systems for coastal hazards;

(E) understand global environmental processes; and

(F) promote domestic and international cooperative solutions to ocean, coastal, and Great Lakes issues.

(2) Investment in a strong program of research, education, training, technology transfer, and public service is essential for this strategy.

(3) The expanding use and development of ocean, coastal, and Great Lakes resources resulting from growing coastal area populations and the increasing pressures on the coastal and Great Lakes environment challenge the ability of the United States to manage such resources wisely.

(4) The vitality of the Nation and the quality of life of its citizens depend increasingly on the understanding, assessment, development, utilization, and conservation of ocean, coastal, and Great Lakes resources. These resources supply food, energy, and minerals and contribute to human health, the quality of the environment, national security, and the enhancement of commerce.

(5) The understanding, assessment, development, utilization, and conservation of such resources require a broad commitment and an intense involvement on the part of the Federal Government in continuing partnership with State and local governments, private industry, universities, organizations, and individuals concerned with or affected by ocean, coastal, and Great Lakes resources.

(6) The National Oceanic and Atmospheric Administration, through the national sea grant college program, offers the most suitable locus and means for such commitment and involvement through the promotion of activities that will result in greater such understanding, assessment, development, utilization, and conservation. The most cost-effective way to promote such activities is through continued and increased Federal support of the establishment, development, and operation of programs and projects by sea grant colleges, sea grant institutes, and other institutions, including strong collaborations between Administration scientists and scientists at academic institutions.

(b) OBJECTIVE.—The objective of this title is to increase the understanding, assessment, development, utilization, and conservation of the Nation's ocean, coastal, and Great Lakes resources by providing assistance to promote a strong educational base, responsive research and training activities, broad and prompt dissemination of knowledge and techniques, and multidisciplinary approaches to environmental problems.

(c) PURPOSE.—It is the purpose of the Congress to achieve the objective of this title by extending and strengthening the national sea grant program, initially established in 1966, to promote research, education, training, and advisory service activities in fields related to ocean, coastal, and Great Lakes resources.

SEC. 203. [33 U.S.C. 1122] DEFINITIONS.

As used in this title—

(1) The term "Administration" means the National Oceanic and Atmospheric Administration.

(2) The term "Director" means the Director of the national sea grant college program,¹ appointed pursuant to section 204(b).

(3) the² term "director of a sea grant college" means a person designated by his or her institution to direct a sea grant college or sea grant institute.

(4) The term "field related to ocean, coastal, and Great Lakes resources" means any discipline or field, including marine affairs, resource management, technology, education, or science, which is concerned with or likely to improve the understanding, assessment, development, utilization, or conservation of ocean, coastal, or Great Lakes resources.

(5) The term "institution" means any public or private institution of higher education, institute, laboratory, or State or local agency.

(6) The term "includes" and variants thereof should be read as if the phrase "but is not limited to" were also set forth.

(7) The term "ocean, coastal, and Great Lakes resources" means the resources that are located in, derived from, or traceable to, the seabed, subsoil, and waters of—

(A) the coastal zone, as defined in section 304(1) of the Coastal Zone Management Act (16 U.S.C. 1453(1));

(B) the Great Lakes;

¹ So in law. Should be "Director of the National Sea Grant College Program".

² So in original. Probably should be "The".

(C) Lake Champlain (to the extent that such resources have hydrological, biological, physical, or geological characteristics and problems similar or related to those of the Great Lakes);

(D) the territorial sea;

(E) the exclusive economic zone;

(F) the Outer Continental Shelf; and

(G) the high seas.¹

(8) The term "resource" means—

(A) living resources (including natural and cultured plant life, fish, shellfish, marine mammals, and wildlife);

(B) nonliving resources (including energy sources, minerals, and chemical substances);

(C) the habitat of a living resource, the coastal space, the ecosystems, the nutrient-rich areas, and the other components of the marine environment that contribute to or provide (or which are capable of contributing to or providing) recreational, scenic, esthetic, biological, habitational, commercial, economic, or conservation values; and

(D) man-made, tangible, intangible, actual, or potential resources.

(9) The term "panel" means the sea grant review panel established under section 209.

(10) The term "person" means any individual; any public or private corporation, partnership, or other association or entity (including any sea grant college, sea grant institute or other institution); or any State, political subdivision of a State, or agency or officer thereof.

(11) The term "project" means any individually described activity in a field related to ocean, coastal, and Great Lakes resources involving research, education, training, or advisory services administered by a person with expertise in such a field.

(12) The term "sea grant college" means any institution, or any association or alliance of two or more such institutions, designated as such by the Secretary under section 207 (33 U.S.C. 1126)² of this Act.

(13) The term "sea grant institute" means any institution, or any association or alliance of two or more such institutions,

¹ Effective upon the date on which the Agreement between the United States and the Union of Soviet Socialist Republics on the Maritime Boundary, signed June 1, 1990, enters into force for the United States, with authority to prescribe implementing regulations effective March 9, 1992, but with no such regulation to be effective until the date on which the Agreement enters into force for the United States, section 307(a) of the Flower Garden National Marine Sanctuary (P.L. 102-251; 106 Stat. 66) amends paragraph (6) (which was redesignated as paragraph (8) by Public Law 104-297 and redesignated as paragraph (7) by Public Law 105-174 and redesignated subparagraphs (C) through (F) as subparagraphs (D) through (G) and added a new subparagraph (C)), by striking "and" at the end of subparagraph (E), redesignating subparagraph (F) as subparagraph (G), and adding after subparagraph (E) the following:

"(F) the areas referred to as eastern special areas in Article 3(1) of the Agreement between the United States of America and the Union of Soviet Socialist Republics on the Maritime Boundary, signed June 1, 1990; in particular, those areas east of the maritime boundary, as defined in that Agreement, that lie within 200 nautical miles of the baselines from which the breadth of the territorial sea of Russia is measured but beyond 200 nautical miles of the baselines from which the breadth of the territorial sea of the United States is measured; and"

² So in law. The United States Code cite should be deleted.

designated as such by the Secretary under section 207 (33 U.S.C. 1126)¹ of this Act.

(14) The term "sea grant program" means a program of research and outreach which is administered by one or more sea grant colleges or sea grant institutes.

(15) The term "Secretary" means the Secretary of Commerce, acting through the Under Secretary of Commerce for Oceans and Atmosphere.

(16) The term "State" means any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Mariana Islands, or any other territory or possession of the United States.

SEC. 204. [33 U.S.C. 1123] NATIONAL SEA GRANT COLLEGE PROGRAM.

(a) PROGRAM MAINTENANCE.—The Secretary shall maintain within the Administration a program to be known as the national sea grant college program. The national sea grant college program shall be administered by a national sea grant office within the Administration.

(b) PROGRAM ELEMENTS.—The national sea grant college program shall consist of the financial assistance and other activities authorized in this title, and shall provide support for the following elements—

(1) sea grant programs which comprise a national sea grant college program network, including international projects conducted within such programs;

(2) administration of the national sea grant college program and this title by the national sea grant office, the Administration, and the panel;

(3) the fellowship program under section 208; and

(4) any national strategic investments in fields relating to ocean, coastal, and Great Lakes resources developed with the approval of the panel, the sea grant colleges, and the sea grant institutes.

(c) RESPONSIBILITIES OF THE SECRETARY.—

(1) The Secretary, in consultation with the panel, sea grant colleges, and sea grant institutes, shall develop at least every 4 years a strategic plan that establishes priorities for the national sea grant college program, provides an appropriately balanced response to local, regional, and national needs, and is reflective of integration with the relevant portions of the strategic plans of the Department of Commerce and of the Administration.

(2) Within 6 months of the date of enactment of the National Sea Grant College Program Reauthorization Act of 1998, the Secretary, in consultation with the panel, sea grant colleges, and sea grant institutes, shall establish guidelines related to the activities and responsibilities of sea grant colleges and sea grant institutes. Such guidelines shall include requirements for the conduct of merit review by the sea grant colleges and sea grant institutes of proposals for grants and contracts to be awarded under section 205, providing, at a minimum, for

¹ See footnote 2 on previous page.

standardized documentation of such proposals and peer review of all research projects.

(3) The Secretary shall by regulation prescribe the qualifications required for designation of sea grant colleges and sea grant institutes under section 207.

(4) To carry out the provisions of this title, the Secretary may—

(A) appoint, assign the duties, transfer, and fix the compensation of such personnel as may be necessary, in accordance with civil service laws;

(B) make appointments with respect to temporary and intermittent services to the extent authorized by section 3109 of title 5, United States Code;

(C) publish or arrange for the publication of, and otherwise disseminate, in cooperation with other offices and programs in the Administration and without regard to section 501 of title 44, United States Code, any information of research, educational, training or other value in fields related to ocean, coastal, or Great Lakes resources;

(D) enter into contracts, cooperative agreements, and other transactions without regard to section 5 of title 41, United States Code;

(E) notwithstanding section 1342 of title 31, United States Code, accept donations and voluntary and uncompensated services;

(F) accept funds from other Federal departments and agencies, including agencies within the Administration, to pay for and add to grants made and contracts entered into by the Secretary; and

(G) promulgate such rules and regulations as may be necessary and appropriate.

(d) DIRECTOR OF THE NATIONAL SEA GRANT COLLEGE PROGRAM.—

(1) The Secretary shall appoint, as the Director of the National Sea Grant College Program, a qualified individual who has appropriate administrative experience and knowledge or expertise in fields related to ocean, coastal, and Great Lakes resources. The Director shall be appointed and compensated, without regard to the provisions of title 5, United States Code, governing appointments in the competitive service, at a rate payable under section 5376 of title 5, United States Code.

(2) Subject to the supervision of the Secretary, the Director shall administer the national sea grant college program and oversee the operation of the national sea grant office. In addition to any other duty prescribed by law or assigned by the Secretary, the Director shall—

(A) facilitate and coordinate the development of a long-range strategic plan under subsection (c)(1);

(B) advise the Secretary with respect to the expertise and capabilities which are available within or through the national sea grant college program and encourage the use of such expertise and capabilities, on a cooperative or other basis, by other offices and activities within the Administration, and other Federal departments and agencies;

(C) advise the Secretary on the designation of sea grant colleges and sea grant institutes, and, if appropriate, on the termination or suspension of any such designation; and

(D) encourage the establishment and growth of sea grant programs, and cooperation and coordination with other Federal activities in fields related to ocean, coastal, and Great Lakes resources.

(3) With respect to sea grant colleges and sea grant institutes, the Director shall—

(A)(i) evaluate the performance of the programs of sea grant colleges and sea grant institutes, using the priorities, guidelines, and qualifications established by the Secretary under subsection (c), and determine which of the programs are the best managed and carry out the highest quality research, education, extension, and training activities; and

(ii) rate the programs according to their relative performance (as determined under clause (i)) into no less than 5 categories, with each of the 2 best-performing categories containing no more than 25 percent of the programs;

(B) subject to the availability of appropriations, allocate funding among sea grant colleges and sea grant institutes so as to—

(i) promote healthy competition among sea grant colleges and institutes;

(ii) encourage successful implementation of sea grant programs;

(iii) to the maximum extent consistent with other provisions of this Act, provide a stable base of funding for sea grant colleges and institutes; and

(iv) encourage and promote coordination and cooperation between the research, education, and outreach programs of the Administration and those of academic institutions; and

(C) ensure compliance with the guidelines for merit review under subsection (c)(2).

SEC. 205. [33 U.S.C. 1124] CONTRACTS AND GRANTS.

(a) IN GENERAL.—The Secretary may make grants and enter into contracts under this subsection to assist any sea grant program or project if the Secretary finds that such program or project will—

(1) implement the objective set forth in section 202(b); and

(2) be responsive to the needs or problems of individual States or regions.

The total amount paid pursuant to any such grant or contract may equal $66\frac{2}{3}$ percent, or any lesser percent, of the total cost of the sea grant program or project involved; except that this limitation shall not apply in the case of grants or contracts paid for with funds accepted by the Secretary under section 204(c)(4)(F).

(b) SPECIAL GRANTS.—The Secretary may make special grants under this subsection to implement the objective set forth in section 202(b). The amount of any such grant may equal 100 percent, or any lesser percent, of the total cost of the project involved. No

grant may be made under this subsection unless the Secretary finds that—

(1) no reasonable means is available through which the applicant can meet the matching requirement for a grant under subsection (a);

(2) the probable benefit of such project outweighs the public interest in such matching requirement; and

(3) the same or equivalent benefit cannot be obtained through the award of a contract or grant under subsection (a).¹

The total amount which may be provided for grants under this subsection during any fiscal year shall not exceed an amount equal to 1 percent of the total funds appropriated for such year pursuant to section 212.

(c) **ELEGIBILITY AND PROCEDURE.**—Any person may apply to the Secretary for a grant or contract under this section. Application shall be made in such form and manner, and with such content and other submissions, as the Secretary shall by regulation prescribe. The Secretary shall act upon each such application within 6 months after the date on which all required information is received.

(d) **TERMS AND CONDITIONS.**—(1) Any grant made, or contract entered into, under this section shall be subject to the limitations and provisions set forth in paragraphs (2), (3), and (4) and to such other terms, conditions, and requirements as the Secretary deems necessary or appropriate. Terms, conditions, and requirements imposed by the Secretary under this paragraph shall minimize any requirement of prior Federal approval.

(2) No payment under any grant or contract under this section may be applied to—

(A) the purchase or rental of any land; or

(B) the purchase, rental, construction, preservation, or repair of any building, dock, or vessel;

except that payment under any such grant or contract may be applied to the short-term rental of buildings or facilities for meetings which are in direct support of any sea grant program or project and may, if approved by the Secretary, be applied to the purchase, rental, construction, preservation, or repair of non-self-propelled habitats, buoys, platforms, and other similar devices or structures, or to the rental of any research vessel which is used in direct support of activities under any sea grant program or project.

(3) The total amount which may be obligated for payment pursuant to grants made to, and contracts entered into with, persons under this section within any one State in any fiscal year shall not exceed an amount equal to 15 percent of the total funds appropriated for such year pursuant to section 212.

(4) Any person who receives or utilizes any proceeds of any grant or contract under this section shall keep such records as the Secretary shall by regulation prescribe as being necessary and appropriate to facilitate effective audit and evaluation, including records which fully disclose the amount and disposition by such recipient of such proceeds, the total cost of the program or project in connection with which such proceeds were used, and the amount,

¹ Section 4(b)(1)(B) of Public Law 102-186 attempted to amend section 205(b)(3) by striking "or section 206 of this title". The words "of this title" probably should not have appeared. The amendment was executed according to the probable intent of Congress.

if any, of such cost which was provided through other sources. Such records shall be maintained for 3 years after the completion of such a program or project. The Secretary and the Comptroller General of the United States, or any of their duly authorized representatives, shall have access, for the purpose of audit and evaluation, to any books, documents, papers, and records of receipts which, in the opinion of the Secretary or of the Comptroller General, may be related or pertinent to such grants and contracts.

[Section 206 was repealed by section 4(a) of Public Law 102-186]

SEC. 207. [33 U.S.C. 1126] SEA GRANT COLLEGES AND SEA GRANT INSTITUTES.

(a) DESIGNATION.—

(1) A sea grant college or sea grant institute shall meet the following qualifications—

(A) have an existing broad base of competence in fields related to ocean, coastal, and Great Lakes resources;

(B) make a long-term commitment to the objective in section 202(b), as determined by the Secretary;

(C) cooperate with other sea grant colleges and institutes and other persons to solve problems or meet needs relating to ocean, coastal, and Great Lakes resources;

(D) have received financial assistance under section 205 of this title (33 U.S.C. 1124);

(E) be recognized for excellence in fields related to ocean, coastal, and Great Lakes resources (including marine resources management and science), as determined by the Secretary; and

(F) meet such other qualifications as the Secretary, in consultation with the panel, considers necessary or appropriate.

(2) The Secretary may designate an institution, or an association or alliance of two or more such institutions, as a sea grant college if the institution, association, or alliance—

(A) meets the qualifications in paragraph (1); and

(B) maintains a program of research, advisory services, training, and education in fields related to ocean, coastal, and Great Lakes resources.

(3) The Secretary may designate an institution, or an association or alliance of two or more such institutions, as a sea grant institute if the institution, association, or alliance—

(A) meets the qualifications in paragraph (1); and

(B) maintains a program which includes, at a minimum, research and advisory services.

(b) EXISTING DESIGNEES.—Any institution, or association or alliance of two or more such institutions, designated as a sea grant college or awarded institutional program status by the Director prior to the date of enactment of the National Sea Grant College Program Reauthorization Act of 1998, shall not have to reapply for designation as a sea grant college or sea grant institute, respectively, after the date of enactment of the National Sea Grant College Program Reauthorization Act of 1998, if the Director determines that the institution, or association or alliance of institutions, meets the qualifications in subsection (a).

(c) **SUSPENSION OR TERMINATION OF DESIGNATION.**—The Secretary may, for cause and after an opportunity for hearing, suspend or terminate any designation under subsection (a).

(d) **DUTIES.**—Subject to any regulations prescribed or guidelines established by the Secretary, it shall be the responsibility of each sea grant college and sea grant institute—

(1) to develop and implement, in consultation with the Secretary and the panel, a program that is consistent with the guidelines and priorities established under section 204(c); and

(2) to conduct a merit review of all proposals for grants and contracts to be awarded under section 205.

(e) **ANNUAL REPORT ON PROGRESS.**—

(1) **REPORT REQUIREMENT.**—The Secretary shall report annually to the Committee on Resources and the Committee on Science of the House of Representatives, and to the Committee on Commerce, Science, and Transportation of the Senate, on efforts and progress made by colleges, universities, institutions, associations, and alliances to become designated under this section as sea grant colleges or sea grant institutes, including efforts and progress made by sea grant institutes in being designated as sea grant colleges.

(2) **TERRITORIES AND FREELY ASSOCIATED STATES.**—The report shall include description of—

(A) efforts made by colleges, universities, associations, institutions, and alliances in United States territories and freely associated States to develop the expertise necessary to be designated as a sea grant institute or sea grant college;

(B) the administrative, technical, and financial assistance provided by the Secretary to those entities seeking to be designated; and

(C) the additional actions or activities necessary for those entities to meet the qualifications for such designation under subsection (a)(1).

SEC. 208. [33 U.S.C. 1127] FELLOWSHIPS.

(a) **IN GENERAL.**—To carry out the educational and training objectives of this Act, the Secretary shall support a program of fellowships for qualified individuals at the graduate and post-graduate level. The fellowships shall be related to ocean, coastal, and Great Lakes resources and awarded pursuant to guidelines established by the Secretary. The Secretary shall strive to ensure equal access for minority and economically disadvantaged students to the program carried out under this subsection. Not later than 1 year after the date of the enactment of the National Sea Grant College Program Act Amendments of 2002, and every 2 years thereafter, the Secretary shall submit a report to the Congress describing the efforts by the Secretary to ensure equal access for minority and economically disadvantaged students to the program carried out under this subsection, and the results of such efforts.

(b) **DEAN JOHN A. KNAUSS MARINE POLICY FELLOWSHIP.**—The Secretary may award marine policy fellowships to support the placement of individuals at the graduate level of education in fields related to ocean, coastal and Great Lakes resources in positions with the executive and legislative branches of the United States

Government. A fellowship awarded under this subsection shall be for a period of not more than 1 year.

SEC. 209. [33 U.S.C. 1128] SEA GRANT REVIEW PANEL.

(a) **ESTABLISHMENT.**—There shall be established an independent committee to be known as the sea grant review panel.

(b) **DUTIES.**—The Panel shall advise the Secretary and the Director concerning—

(1) applications or proposals for, and performance under, grants and contracts awarded under section 205¹;

(2) the sea grant fellowship program;

(3) the designation and operation of sea grant colleges and sea grant institutes, and the operation of sea grant programs;

(4) the formulation and application of the planning guidelines and priorities under section 204(a) and (c)(1); and

(5) such other matters as the Secretary refers to the panel for review and advice.

The Secretary shall make available to the panel such information, personnel, and administrative services and assistance as it may reasonably require to carry out its duties.

(c) **MEMBERSHIP, TERMS, AND POWERS.**—(1) The panel shall consist of 15 voting members who shall be appointed by the Secretary. The Director and a director of a sea grant program who is elected by the various directors of sea grant programs shall serve as nonvoting members of the panel. Not less than 8 of the voting members of the panel shall be individuals who, by reason of knowledge, experience, or training, are especially qualified in one or more of the disciplines and fields included in marine science. The other voting members shall be individuals who, by reason of knowledge, experience, or training, are especially qualified in, or representative of, education, marine affairs and resource management, extension services, State government, industry, economics, planning, or any other activity which is appropriate to, and important for, any effort to enhance the understanding, assessment, development, utilization, or conservation of ocean, coastal, and Great Lakes resources. No individual is eligible to be a voting member of the panel if the individual is (A) the director of a sea grant college or sea grant institute; (B) an applicant for, or beneficiary (as determined by the Secretary) of, any grant or contract under section 205; or (C) a full-time officer of employee of the United States.

(2) The term of office of a voting member of the panel shall be 3 years for a member appointed before the date of enactment of the National Sea Grant College Program Act Amendments of 2002, and 4 years for a member appointed or reappointed after the date of enactment of the National Sea Grant College Program Act Amendments of 2002. The Director may extend the term of office of a voting member of the panel appointed before the date of enactment of the National Sea Grant College Program Act Amendments of 2002 by up to 1 year. At least once each year, the Secretary shall publish a notice in the Federal Register soliciting nominations for membership on the panel.

¹ Section 8(b)(2) of the National Sea Grant College Program Reauthorization Act of 1998 (P.L. 105-160; 112 Stat. 26) amended this paragraph by striking "and section 3 of the Sea Grant College Program Improvement Act of 1976". The word "College" probably should not have appeared. The amendment was executed according to the probable intent of Congress.

(3) Any individual appointed to a partial or full term may be reappointed for one addition full term. A voting member may serve after the date of the expiration of the term of office for which appointed until his or her successor has taken office.

(4) The panel shall select one voting member to serve as the Chairman and another voting member to serve as the Vice Chairman. The Vice Chairman shall act as Chairman in the absence or incapacity of the Chairman.

(5) Voting members of the panel shall—

(A)¹ receive compensation at a rate established by the Secretary, not to exceed the maximum daily rate payable under section 5376 of title 5, United States Code, when actually engaged in the performance of duties for such panel; and

(B) be reimbursed for actual and reasonable expenses incurred in the performance of such duties.

(6) The panel shall meet on a biannual basis and, at any other time, at the call of the Chairman or upon the request of a majority of the voting members or of the Director.

(7) The panel may exercise such powers as are reasonably necessary in order to carry out its duties under subsection (b).

SEC. 210. [33 U.S.C. 1129] INTERAGENCY COOPERATION.

Each department, agency, or other instrumentality of the Federal Government which is engaged in or concerned with, or which has authority over, matters relating to ocean, coastal, and Great Lakes resources—

(1) may, upon a written request from the Secretary, make available, on a reimbursable basis or otherwise any personnel (with their consent and without prejudice to their position and rating), service, or facility which the Secretary deems necessary to carry out any provision of this title;

(2) shall, upon a written request from the Secretary, furnish any available data or other information which the Secretary deems necessary to carry out any provision of this title; and

(3) shall cooperate with the Administration and duly authorized officials thereof.

[Section 211 was repealed by section 5(a) of Public Law 102-186]

SEC. 212. [33 U.S.C. 1131] AUTHORIZATION OF APPROPRIATIONS.

(a) AUTHORIZATION.—

(1) IN GENERAL.—There are authorized to be appropriated to the Secretary to carry out this title—

(A) \$60,000,000 for fiscal year 2003;

(B) \$75,000,000 for fiscal year 2004;

(C) \$77,500,000 for fiscal year 2005;

(D) \$80,000,000 for fiscal year 2006;

(E) \$82,500,000 for fiscal year 2007; and

(F) \$85,000,000 for fiscal year 2008.

¹ Margin so in law.

(2) PRIORITY ACTIVITIES.—In addition to the amounts authorized under paragraph (1), there are authorized to be appropriated for each of fiscal years 2003 through 2008—

(A) \$5,000,000 for competitive grants for university research on the biology and control of zebra mussels and other important aquatic nonnative species;

(B) \$5,000,000 for competitive grants for university research on oyster diseases, oyster restoration, and oyster-related human health risks;

(C) \$5,000,000 for competitive grants for university research on the biology, prevention, and forecasting of harmful algal blooms, including *Pfiesteria piscicida*; and

(D) \$3,000,000 for competitive grants for fishery extension activities conducted by sea grant colleges or sea grant institutes to enhance, and not supplant, existing core program funding.

(b) LIMITATIONS.—

(1) ADMINISTRATION.—There may not be used for administration of programs under this title in a fiscal year more than 5 percent of the lesser of—

(A) the amount authorized to be appropriated under this title for the fiscal year; or

(B) the amount appropriated under this title for the fiscal year.

(2) USE FOR OTHER OFFICES OR PROGRAMS.—Sums appropriated under the authority of subsection (a)(2) shall not be available for administration of this title by the National Sea Grant Office, for any other Administration or department program, or for any other administrative expenses.

(c) DISTRIBUTION OF FUNDS.—In any fiscal year in which the appropriations made under subsection (a)(1) exceed the amounts appropriated for fiscal year 2003 for the purposes described in such subsection, the Secretary shall distribute any excess amounts (except amounts used for the administration of the sea grant program) to any combination of the following:

(1) sea grant programs, according to their rating under section 204(d)(3)(A);

(2) national strategic investments authorized under section 204(b)(4);

(3) a college, university, institution, association, or alliance for activities that are necessary for it to be designated as a sea grant college or sea grant institute; and

(4) a sea grant college or sea grant institute designated after the date of enactment of the National Sea Grant College Program Act Amendments of 2002 but not yet evaluated under section 204(d)(3)(A).

(d) AVAILABILITY OF SUMS.—Sums appropriated pursuant to this section shall remain available until expended.

(e) REVERSION OF UNOBLIGATED AMOUNTS.—The amount of any grant, or portion of a grant, made to a person under any section of this Act that is not obligated by that person during the first fiscal year for which it was authorized to be obligated or during the next fiscal year thereafter shall revert to the Secretary. The Secretary shall add that reverted amount to the funds available for

grants under the section for which the reverted amount was originally made available.

**NATIONAL OCEANIC AND ATMOSPHERIC
ADMINISTRATION AUTHORIZATION ACT OF 1992**

(Public Law 102-567)

AN ACT To authorize appropriations for the National Oceanic and Atmospheric Administration, and for other purposes.

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

SECTION 1. SHORT TITLE.

This Act may be cited as the "National Oceanic and Atmospheric Administration Authorization Act of 1992".

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**TITLE I—NOAA ATMOSPHERIC AND SATELLITE
PROGRAMS**

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SEC. 101. NATIONAL WEATHER SERVICE OPERATIONS AND RESEARCH.

(a) * * *

* * * * *

(c) [15 U.S.C. 325 note] COOPERATIVE WEATHER OBSERVER PROGRAM.—The Secretary of Commerce may use funds otherwise available for conducting weather observations to strengthen the Cooperative Weather Observer Program and encourage public participation in the program. The Secretary may—

(1) provide distinctive insignia or paraphernalia to Cooperative Weather Observers; and

(2) make awards of nominal value to recognize continued participation in the program by observers or to recognize outstanding achievements by such observers or groups of observers without regard to any law restricting expenditures for such purposes to Federal employees.

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SEC. 106. DATA AND INFORMATION SYSTEMS.

(a) * * *

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(c) [15 U.S.C. 1537] NEEDS ASSESSMENT FOR DATA MANAGEMENT, ARCHIVAL, AND DISTRIBUTION.—(1) Not later than 12 months after the date of enactment of this Act and at least biennially thereafter, the Secretary of Commerce shall complete an assess-

ment of the adequacy of the environmental data and information systems of the National Oceanic and Atmospheric Administration. In conducting such an assessment, the Secretary shall take into consideration the need to—

(A) provide adequate capacity to manage, archive, and disseminate environmental data and information collected and processed, or expected to be collected and processed, by the National Oceanic and Atmospheric Administration and other appropriate departments and agencies;

(B) establish, develop, and maintain information bases, including necessary management systems, which will promote consistent, efficient, and compatible transfer and use of data;

(C) develop effective interfaces among the environmental data and information systems of the National Oceanic and Atmospheric Administration and other appropriate departments and agencies;

(D) develop and use nationally accepted formats and standards for data collected by various national and international sources; and

(E) integrate and interpret data from different sources to produce information that can be used by decisionmakers in developing policies that effectively respond to national and global environmental concerns.

(2) Not later than 12 months after the date of enactment of this Act and biennially thereafter, the Secretary of Commerce shall develop and submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives¹ a comprehensive plan, based on the assessment under paragraph (1), to modernize and improve the environmental data and information systems of the National Oceanic and Atmospheric Administration. The report shall—

(A) set forth modernization and improvement objectives for the 10-year period beginning with the year in which the plan is submitted, including facility requirements and critical new technological components that would be necessary to meet the objectives set forth;

(B) propose specific agency programs and activities for implementing the plan;

(C) identify the data and information management, archival, and distribution responsibilities of the National Oceanic and Atmospheric Administration with respect to other Federal departments and agencies and international organizations, including the role of the National Oceanic and Atmospheric Administration with respect to large data systems like the Earth Observing System Data and Information System; and

(D) provide an implementation schedule and estimate funding levels necessary to achieve modernization and improvement objectives.

¹In accordance with section 1(a)(10) of Public Law 104-14 (109 Stat. 187), "the Committee on Science, Space, and Technology of the House of Representatives shall be treated as referring to the Committee on Science of the House of Representatives".

SEC. 107. [15 U.S.C. 313 note] HURRICANE RECONNAISSANCE PROGRAM.

(a) **ESTABLISHMENT OF PROGRAM.**—(1) The Secretary of Defense and the Secretary of Commerce shall establish a 5-year joint program for collecting operational and reconnaissance data, conducting research, and analyzing data on tropical cyclones to assist the forecast and warning program and increase the understanding of the causes and behavior of tropical cyclones.

(2) The Secretary of Commerce shall establish the Tropical Cyclone Research Advisory Committee, an advisory committee of tropical cyclone research scientists, to make recommendations for tropical cyclone research activities and reconnaissance procedures.

(b) **RESPONSIBILITIES.**—(1) The Secretary of Defense shall have the responsibility for maintaining, flying, and funding tropical cyclone reconnaissance aircraft to accomplish the program established under this section and to transfer the data to the Secretary of Commerce. Program responsibility may not be transferred to any other Federal department or agency, including the Coast Guard, without the agreement and approval of the Secretary of Defense, the Secretary of Commerce, and the head of any other Federal agency or department to which the responsibility is transferred.

(2) The Secretary of Commerce shall have the responsibility to provide funding for data gathering and research by remote sensing, ground sensing, research aircraft, and other technologies necessary to accomplish the program established under this section.

(c) **MANAGEMENT PLANS.**—(1) The Secretary of Defense and the Secretary of Commerce shall jointly develop and, within 120 days after the date of enactment of this Act, submit to the Congress a management plan for the program established under this section, which shall include organizational structure, goals, major tasks, and funding profiles for the 5-year duration of the program.

(2) The Secretary of Defense and the Secretary of Commerce, in consultation with the Tropical Cyclone Research Advisory Committee established by section 107(a)(2), shall jointly develop and, within 4 years after the date of enactment of this Act, submit to the Congress a management plan providing for continued tropical cyclone surveillance and reconnaissance which will adequately protect the citizens of the coastal areas of the United States.

(3) The management plans and programs required by this section shall in every sense provide for at least the same degree and quality of protection (such as early warning capability and accuracy of fixing a storm's location) as currently exists with a combination of satellite technology and manned reconnaissance flights. Additionally, such plans and programs shall in no way allow any reduction in the level, quality, timeliness, sustainability, or area served (including the State of Hawaii) of both the existing principal and back-up tropical cyclone reconnaissance and tracking systems.

SEC. 108. [15 U.S.C. 313 note] UNITED STATES WEATHER RESEARCH PROGRAM.

(a) **ESTABLISHMENT.**—The Secretary of Commerce, in cooperation with the Federal Coordinating Council for Science, Engineering, and Technology through the Committee on Earth and Environmental Sciences, shall establish a United States Weather Research Program to—

- (1) increase benefits to the Nation from the substantial investment in modernizing the public weather warning and forecast system in the United States;
- (2) improve local and regional weather forecasts and warnings;
- (3) address critical weather-related scientific issues; and
- (4) coordinate governmental, university, and private-sector efforts.

(b) IMPLEMENTATION PLAN.—Not later than 90 days after the date of enactment of this Act, the Secretary of Commerce, in cooperation with the Committee on Earth and Environmental Sciences, shall prepare and submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives¹ a plan for implementation of the United States Weather Research Program which shall—

- (1) establish, for the 10-year period beginning in the year the plan is submitted, the goals and priorities for Federal weather research which most effectively advance the scientific understanding of weather processes and provide information to improve weather warning and forecast systems in the United States;
- (2) describe specific activities, including research activities, data collection and data analysis requirements, predictive modeling, participation in international research efforts, demonstration of potential operational forecast applications, and education and training required to achieve such goals and priorities; and
- (3) set forth the role of each Federal agency and department to be involved in the United States Weather Research Program, identifying and addressing, as appropriate, relevant programs and activities of the Federal agencies and departments that would contribute to such Program.

* * * * *

SEC. 112. [15 U.S.C. 313b] INSTITUTE FOR AVIATION WEATHER PREDICTION.

The Administrator of the National Oceanic and Atmospheric Administration shall establish an Institute for Aviation Weather Prediction. The Institute shall provide forecasts, weather warnings, and other weather services to the United States aviation community. The Institute shall expand upon the activities of the aviation unit currently at the National Severe Storms Forecast Center in Kansas City, Missouri, and shall be established in the Kansas City, Missouri area. The Administrator shall provide a full and fair opportunity for employees at the National Severe Storms Forecast Center to assume comparable duties and responsibilities within the Institute.

* * * * *

¹In accordance with section 1(a)(10) of Public Law 104-14 (109 Stat. 187), "the Committee on Science, Space, and Technology of the House of Representatives shall be treated as referring to the Committee on Science of the House of Representatives".

TITLE III—NOAA MARINE FISHERY PROGRAMS

* * * * *

SEC. 307. [15 U.S.C. 1511d] CHESAPEAKE BAY OFFICE.

(a) **ESTABLISHMENT.**—(1) The Secretary of Commerce shall establish, within the National Oceanic and Atmospheric Administration, an office to be known as the Chesapeake Bay Office (in this section referred to as the “Office”).

(2) The Office shall be headed by a Director who shall be appointed by the Secretary of Commerce, in consultation with the Chesapeake Executive Council. Any individual appointed as Director shall have knowledge and experience in research or resource management efforts in the Chesapeake Bay.

(3) The Director may appoint such additional personnel for the Office as the Director determines necessary to carry out this section.

(b) **FUNCTIONS.**—The Office, in consultation with the Chesapeake Executive Council, shall—

(1) provide technical assistance to the Administrator, to other Federal departments and agencies, and to State and local government agencies in—

(A) assessing the processes that shape the Chesapeake Bay system and affect its living resources;

(B) identifying technical and management alternatives for the restoration and protection of living resources and the habitats they depend upon; and

(C) monitoring the implementation and effectiveness of management plans;

(2) develop and implement a strategy for the National Oceanic and Atmospheric Administration that integrates the science, research, monitoring, data collection, regulatory, and management responsibilities of the Secretary of Commerce in such a manner as to assist the cooperative, intergovernmental Chesapeake Bay Program to meet the commitments of the Chesapeake Bay Agreement;

(3) coordinate the programs and activities of the various organizations within the National Oceanic and Atmospheric Administration, the Chesapeake Bay Regional Sea Grant Programs, and the Chesapeake Bay units of the National Estuarine Research Reserve System, including—

(A) programs and activities in—

(i) coastal and estuarine research, monitoring, and assessment;

(ii) fisheries research and stock assessments;

(iii) data management;

(iv) remote sensing;

(v) coastal management;

(vi) habitat conservation and restoration; and

(vii) atmospheric deposition; and

(B) programs and activities of the Cooperative Oxford Laboratory of the National Ocean Service with respect to—

(i) nonindigenous species;

(ii) estuarine and marine species pathology;

(iii) human pathogens in estuarine and marine environments; and

(iv) ecosystem health;

(4) coordinate the activities of the National Oceanic and Atmospheric Administration with the activities of the Environmental Protection Agency and other Federal, State, and local agencies;

(5) establish an effective mechanism which shall ensure that projects have undergone appropriate peer review and provide other appropriate means to determine that projects have acceptable scientific and technical merit for the purpose of achieving maximum utilization of available funds and resources to benefit the Chesapeake Bay area;

(6) remain cognizant of ongoing research, monitoring, and management projects and assist in the dissemination of the results and findings of those projects; and

(7) submit a biennial report to the Congress and the Secretary of Commerce with respect to the activities of the Office and on the progress made in protecting and restoring the living resources and habitat of the Chesapeake Bay, which report shall include an action plan consisting of—

(A) a list of recommended research, monitoring, and data collection activities necessary to continue implementation of the strategy described in paragraph (2); and

(B) proposals for—

(i) continuing any new National Oceanic and Atmospheric Administration activities in the Chesapeake Bay; and

(ii) the integration of those activities with the activities of the partners in the Chesapeake Bay Program to meet the commitments of the Chesapeake 2000 agreement and subsequent agreements.

(c) CHESAPEAKE BAY FISHERY AND HABITAT RESTORATION SMALL WATERSHED GRANTS PROGRAM.—

(1) IN GENERAL.—The Director of the Chesapeake Bay Office of the National Oceanic and Atmospheric Administration (in this section referred to as the “Director”), in cooperation with the Chesapeake Executive Council, shall carry out a community-based fishery and habitat restoration small grants and technical assistance program in the Chesapeake Bay watershed.

(2) PROJECTS.—

(A) SUPPORT.—The Director shall make grants under this subsection to pay the Federal share of the cost of projects that are carried out by entities eligible under paragraph (3) for the restoration of fisheries and habitats in the Chesapeake Bay.

(B) FEDERAL SHARE.—The Federal share under subparagraph (A) shall not exceed 75 percent.

(C) TYPES OF PROJECTS.—Projects for which grants may be made under this subsection include—

(i) the improvement of fish passageways;

(ii) the creation of natural or artificial reefs or substrata for habitats;

(iii) the restoration of wetland or sea grass;

(iv) the production of oysters for restoration projects; and

(v) the prevention, identification, and control of nonindigenous species.

(3) ELIGIBLE ENTITIES.—The following entities are eligible to receive grants under this subsection:

(A) The government of a political subdivision of a State in the Chesapeake Bay watershed, and the government of the District of Columbia.

(B) An organization in the Chesapeake Bay watershed (such as an educational institution or a community organization)—

(i) that is described in section 501(c) of the Internal Revenue Code of 1986 and is exempt from taxation under section 501(a) of that Code; and

(ii) that will administer such grants in coordination with a government referred to in subparagraph (A).

(4) ADDITIONAL REQUIREMENTS.—The Director may prescribe any additional requirements, including procedures, that the Director considers necessary to carry out the program under this subsection.

(d) CHESAPEAKE EXECUTIVE COUNCIL.—For purposes of this section, “Chesapeake Executive Council” means the representatives from the Commonwealth of Virginia, the State of Maryland, the Commonwealth of Pennsylvania, the Environmental Protection Agency, the District of Columbia, and the Chesapeake Bay Commission, who are signatories to the Chesapeake Bay Agreement, and any future signatories to that Agreement.

(e) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to the Department of Commerce for the Chesapeake Bay Office \$6,000,000 for each of fiscal years 2002 through 2006.

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TITLE IV—ADMINISTRATION AND OTHER ACCOUNTS

SEC. 401. PROGRAM SUPPORT.

(a) * * *

(b) MARINE SERVICES.—(1) * * *

* * * * *

(5) [33 U.S.C. 891g note] The Secretary of Commerce shall consult with the Oceanographer of the Navy regarding appropriate cost effective and practical measures to allow vessels of the National Oceanic and Atmospheric Administration to be interoperable with vessels of the Department of the Navy, including with respect to operation, maintenance, and repair of those vessels.

* * * * *

SEC. 406. [15 U.S.C. 1540] COOPERATIVE AGREEMENTS.

The Secretary of Commerce, acting through the Under Secretary of Commerce for Oceans and Atmosphere, may enter into cooperative agreements and other financial agreements with any nonprofit organization to—

(1) aid and promote scientific and educational activities to foster public understanding of the National Oceanic and Atmospheric Administration or its programs; and

(2) solicit private donations for the support of such activities.

SEC. 407. RECRUITMENT OF MINORITIES AND WOMEN FOR NOAA SCIENCE EDUCATION ACTIVITIES.

(a) FINDINGS.—The Congress finds the following:

(1) In this decade, more than two-thirds of the new entrants to the United States labor force will be minorities and women—groups which for the most part have been historically underrepresented in the sciences.

(2) The National Science Foundation estimates that by the year 2000, the United States will face a shortfall of more than 400,000 science and engineering personnel.

(3) Given the demographics of the United States workforce, the problem of underrepresented minorities and women in the sciences and engineering could seriously compromise the industrial and technological capability of the United States, as well as its ability to compete in international marketplaces.

(4) The National Oceanic and Atmospheric Administration has made important efforts to promote education programs in the sciences for students, teachers, and other citizens.

(b) SENSE OF CONGRESS.—It is the sense of the Congress that the National Oceanic and Atmospheric Administration should continue to expand its educational programs in the sciences, and in this effort, that the National Oceanic and Atmospheric Administration should develop and promote programs that reach out to and recruit minorities and women for education in the sciences.

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TITLE V—NATIONAL MARINE MONITORING PROGRAM¹

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TITLE VI—NOAA FLEET MODERNIZATION

SEC. 601. [33 U.S.C. 851 note] SHORT TITLE.

This title may be cited as the “NOAA Fleet Modernization Act”.

SEC. 602. [33 U.S.C. 891] DEFINITIONS.

In this title, the term—

(1) “NOAA” means the National Oceanic and Atmospheric Administration within the Department of Commerce.

(2) “NOAA fleet” means the fleet of research vessels owned or operated by NOAA.

(3) “Plan” means the NOAA Fleet Replacement and Modernization Plan described in section 604.

(4) “Secretary” means the Secretary of Commerce.

(5) “UNOLS” means University-National Oceanographic Laboratory System.

¹This title added a new title V to the Marine Protection, Research, and Sanctuaries Act of 1972, which appears elsewhere in this compilation.

SEC. 603. [33 U.S.C. 891a] FLEET REPLACEMENT AND MODERNIZATION PROGRAM.

The Secretary is authorized to implement, subject to the requirements of this Act, a 15-year program to replace and modernize the NOAA fleet.

SEC. 604. [33 U.S.C. 891b] FLEET REPLACEMENT AND MODERNIZATION PLAN.

(a) **IN GENERAL.**—To carry out the program authorized in section 603, the Secretary shall develop and submit to Congress a replacement and modernization Plan for the NOAA fleet covering the years authorized under section 610.

(b) **TIMING.**—The Plan required in subsection (a) shall be submitted to Congress within 30 days of the date of enactment of this Act, and updated on an annual basis.

(c) **PLAN ELEMENTS.**—The Plan required in subsection (a) shall include the following—

(1) the number of vessels proposed to be modernized or replaced, the schedule for their modernization or replacement, and anticipated funding requirements;

(2) the number of vessels proposed to be constructed, leased, or chartered;

(3) the number of vessels, or days at sea, that can be obtained by using the vessels of the UNOLS;

(4) the number of vessels that will be made available to NOAA by the Secretary of the Navy, or any other federal official, and the terms and conditions for their availability;

(5) the proposed acquisition of modern scientific instrumentation for the NOAA fleet, including acoustic systems, data transmission positioning and communication systems, physical, chemical, and meteorological oceanographic systems, and data acquisition and processing systems; and

(6) the appropriate role of the NOAA Corps in operating and maintaining the NOAA fleet.

(d) **CONTRACTING LIMITATION.**—The Secretary may not enter into any contract for the construction, lease, or service life extension of a vessel of the NOAA fleet before the date of the submission to Congress of the Plan required in subsection (a).

SEC. 605. [33 U.S.C. 891c] DESIGN OF NOAA VESSELS.

(a) **DESIGN REQUIREMENT.**—Except for the vessel designs identified under subsection (b), the Secretary, working through the Office of the NOAA Corps Operations and the Systems Procurement Office, shall—

(1) prepare requirements for each class of vessel to be constructed or converted under the Plan; and

(2) contract competitively from nongovernmental entities with expertise in shipbuilding for vessel design and construction based on the requirements for each class of vessel to be acquired.

(b) **EXCEPTION.**—The Secretary shall—

(1) report to Congress identifying any existing vessel design or design proposal that meets the requirements of the Plan within 30 days after the date of enactment of this Act and shall promptly advise the Congress of any modification of these designs; and

(2) submit to Congress as part of the annual update of the Plan required in section 604, any subsequent existing vessel design or design proposals that meet the requirements of the Plan.

SEC. 606. [33 U.S.C. 891d] CONTRACT AUTHORITY.

(a) **MULTIYEAR CONTRACTS.**—

(1) **IN GENERAL.**—Subject to paragraphs (2) and (3), and notwithstanding section 1341 of title 31, United States Code and section 3732 of the Revised Statutes of the United States (41 U.S.C. 11), the Secretary may acquire vessels for the NOAA fleet by purchase, lease, lease-purchase, or otherwise, under one or more multiyear contracts.

(2) **REQUIRED FINDINGS.**—The Secretary may not enter into a contract pursuant to this subsection unless the Secretary finds with respect to that contract that—

(A) there is a reasonable expectation that throughout the contemplated contract period the Secretary will request from Congress funding for the contract at the level required to avoid contract termination; and

(B) the use of the contract will promote the best interests of the United States by encouraging competition and promoting economic efficiency in the operation of the NOAA fleet.

(3) **REQUIRED CONTRACT PROVISIONS.**—The Secretary may not enter into a contract pursuant to this subsection unless the contract includes—

(A) a provision under which the obligation of the United States to make payments under the contract for any fiscal year is subject to the availability of appropriations provided in advance for those payments;

(B) a provision that specifies the term of effectiveness of the contract; and

(C) appropriate provisions under which, in case of any termination of the contract before the end of the term specified pursuant to subparagraph (B), the United States shall only be liable for the lesser of—

(i) an amount specified in the contract for such a termination; or

(ii) amounts that—

(I) were appropriated before the date of the termination for the performance of the contract or for procurement of the type of acquisition covered by the contract; and

(II) are unobligated on the date of the termination.

(b) **SERVICE CONTRACTS.**—Notwithstanding any other provision of law, the Secretary may enter into multiyear contracts for oceanographic research, fisheries research, and mapping and charting services to assist the Secretary in fulfilling NOAA missions. The Secretary may only enter into these contracts if—

(1) the Secretary finds that it is in the public interest to do so;

(2) the contract is for not more than 7 years; and

(3)(A) the cost of the contract is less than the cost (including the cost of operation, maintenance, and personnel) to the NOAA of obtaining those services on NOAA vessels; or

(B) NOAA vessels are not available or cannot provide those services.

(c) BONDING AUTHORITY.—Notwithstanding any other law, the Secretary may not require a contractor for the construction, alteration, repair or maintenance of a NOAA vessel to provide a bid bond, payment bond, performance bond, completion bond, or other surety instrument in an amount greater than 20 percent of the value of the base contract quantity (excluding options) unless the Secretary determines that requiring an instrument in that amount will not prevent a responsible bidder or offeror from competing for the award of the contract.

SEC. 607. [33 U.S.C. 891e] RESTRICTION WITH RESPECT TO CERTAIN SHIPYARD SUBSIDIES.

(a) IN GENERAL.—The Secretary of Commerce may not award a contract for the construction, repair (except emergency repairs), or alteration of any vessel of the National Oceanic and Atmospheric Administration in a shipyard, if that vessel benefits or would benefit from significant subsidies for the construction, repair, or alteration of vessels in that shipyard.

(b) DEFINITION.—In this section, the term “significant subsidy” includes, but is not limited to, any of the following:

(1) Officially supported export credits.

(2) Direct official operating support to the commercial shipbuilding and repair industry, or to a related entity that favors the operation of shipbuilding and repair, including but not limited to—

(A) grants;

(B) loans and loan guarantees other than those available on the commercial market;

(C) forgiveness of debt;

(D) equity infusions on terms inconsistent with commercially reasonable investment practices; and

(E) preferential provision of goods and services.

(3) Direct official support for investment in the commercial shipbuilding and repair industry, or to a related entity that favors the operation of shipbuilding and repair, including but not limited to the kinds of support listed in paragraph (2)(A) through (E), and any restructuring support, except public support for social purposes directly and effectively linked to shipyard closures.

(4) Assistance in the form of grants, preferential loans, preferential tax treatment, or otherwise, that benefits or is directly related to shipbuilding and repair for purposes of research and development that is not equally open to domestic and foreign enterprises.

(5) Tax policies and practices that favor the shipbuilding and repair industry, directly or indirectly, such as tax credits, deductions, exemptions, and preferences, including accelerated depreciation, if such benefits are not generally available to persons or firms not engaged in shipbuilding or repair.

(6) Any official regulation or practice that authorizes or encourages persons or firms engaged in shipbuilding or repair to enter into anticompetitive arrangements.

(7) Any indirect support directly related, in law or in fact, to shipbuilding and repair at national yards, including any public assistance favoring shipowners with an indirect effect on shipbuilding or repair activities, and any assistance provided to suppliers of significant inputs to shipbuilding, which results in benefits to domestic shipbuilders.

(8) Any export subsidy identified in the Illustrative List of Export Subsidies in the Annex to the Agreement on Subsidies and Countervailing Measures referred to in section 101(d)(12) of the Uruguay Round Agreements Act, or any other export subsidy prohibited by that agreement.

SEC. 608. [33 U.S.C. 891f] USE OF VESSELS.

(a) **VESSEL AGREEMENTS.**—In implementing the NOAA fleet replacement and modernization program, the Secretary shall use excess capacity of UNOLS vessels where appropriate and may enter into memoranda of agreement with the operators of these vessels to carry out this requirement.

(b) **REPORT TO CONGRESS.**—Within one year after the date of enactment of this Act, the Comptroller General of the United States shall provide a report to Congress, in consultation with the Secretary, comparing the cost-efficiency, accounting, and operating practices of the vessels of NOAA, UNOLS, other Federal agencies, and the United States private sector in meeting the missions of NOAA.

SEC. 609. [33 U.S.C. 891g] INTEROPERABILITY.

The Secretary shall consult with the Oceanographer of the Navy regarding appropriate measures that should be taken, on a reimbursable basis, to ensure that NOAA vessels are interoperable with vessels of the Department of the Navy, including with respect to operation, maintenance, and repair of those vessels.

SEC. 610. [33 U.S.C. 891h] AUTHORIZATION OF APPROPRIATIONS.

(a) **IN GENERAL.**—There are authorized to be appropriated to the Secretary for carrying out this title—

- (1) \$50,000,000 for fiscal year 1993;
- (2) \$100,000,000 for fiscal year 1994; and
- (3) such sums as are necessary for each of the fiscal years 1995, 1996, and 1997.

(b) **LIMITATION ON FLEET MODERNIZATION ACTIVITIES.**—All National Oceanic and Atmospheric Administration fleet modernization shipbuilding, and conversion shall be conducted in accordance with this title.

TITLE VII—WEATHER SERVICE MODERNIZATION ¹

* * * * *

¹Title VII consists of the Weather Service Modernization Act, which is included elsewhere in this compilation.

WEATHER SERVICE MODERNIZATION¹

SEC. 407. (a) [15 U.S.C. 313 note] The Secretary shall prepare and submit to the Congress, not later than 90 days after the date of enactment of this Act, a 10-year strategic plan for the comprehensive modernization of the National Weather Service. The strategic plan shall set forth basic service improvement objectives of the modernization as well as the critical new technological components and the associated operational changes necessary to fulfill the objectives of weather and flood warning service improvements.
[(b) through (d) Repealed.]

[SEC. 408. Repealed.]

SEC. 409. [15 U.S.C. 1534] (a) Except as otherwise provided in this section, the Secretary is authorized to assess fees, based on fair market value, for access to environmental data and information and products derived therefrom collected and/or archived by the National Oceanic and Atmospheric Administration.

(b)(1) The Secretary shall provide data, information, and products described in subsection (a) to Federal, State, and local government agencies, to universities, and to other nonprofit institutions at the cost of reproduction and transmission, if such data, information, and products are to be used for research and not for commercial purposes.

(2) The Secretary shall waive the assessment of fees under subsection (a) as necessary to continue to provide data, information, or products to foreign governments and international organizations on a basis of exchanging such data, information, and products or as otherwise provided by international agreement.

(3) The Secretary shall waive the assessment of fees authorized by subsection (a) as necessary to continue to provide weather warnings, watches, and similar products and services essential to the mission of the National Oceanic Atmospheric Administration.

(c) The initial schedule of any fees assessed under this section, and any subsequent amendment to such schedule, shall be published by the Secretary in the Federal Register at least 30 days before such fees will take effect. The initial schedule shall remain in effect without amendment for the three-year period beginning on the date that fees under the schedule take effect.

(d) Any assessment of fees under this section by the National Environmental Satellite, Data, and Information Service for archived data shall meet the following requirements:

¹ These sections were enacted as sections 407 through 409 of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1989 (Public Law 100-685).

(1) The initial schedule of fees established by the National Environmental Satellite, Data, and Information Service for archived data shall remain in effect for the 3-year period beginning on the date that the fees under that schedule take effect.

(2) With respect to the first one-year period during which the initial fee schedule is in effect, fees shall be assessed at no more than one-third of the fair market value specified in subsection (a).

(3) With respect to the second one-year period during which the initial fee schedule is in effect, fees shall be assessed at not more than two-thirds of such fair market value.

(4) With respect to the third one-year period during which the initial fee schedule is in effect, and with respect to any period thereafter, fees shall be assessed at no more than the full amount of such fair market value.

(e) Fees collected under this section by the National Environmental Satellite, Data, and Information Service for archived data shall be available to the National Environmental Satellite, Data, and Information Service for expenses incurred in the operation of its data archive centers.

(f) The Secretary shall, not later than 90 days after the date of enactment of this Act, submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives¹ a report which sets forth—

(1) any plan of the Secretary for assessing fees under this section by the National Environmental Satellite, Data, and Information Service for archived data, including the methodology and bases by which the amount of such fees shall be determined, and the estimated revenues therefrom; and

(2) any plan of the Secretary for using revenues generated from such fees, as well as other resources, to improve the capability of the National Environmental Satellite, Data, and Information Service to collect, manage, process, archive, and disseminate the increasing amounts of data generated from satellites, radars, and other technologies.

(g) The authority of the Secretary to assess fees under this section shall be in addition to, and shall not be construed to limit, the authority under any other law to assess fees relating to the environmental data activities of the National Oceanic and Atmospheric Administration, including the authority of the Secretary pursuant to section 1307 of title 44, United States Code. Nothing in this section shall be construed to authorize the Secretary to assess fees for nautical and aeronautical products of the National Oceanic and Atmospheric Administration in addition to those fees authorized under section 1307 of title 44, United States Code.

¹ In accordance with section 1(a)(10) of Public Law 104-14 (109 Stat. 187), "the Committee on Science, Space, and Technology of the House of Representatives shall be treated as referring to the Committee on Science of the House of Representatives".

WEATHER SERVICE MODERNIZATION ACT

TITLE VII—WEATHER SERVICE MODERNIZATION¹

(15 U.S.C. 313 note)

SEC. 701. SHORT TITLE.

This title may be cited as the “Weather Service Modernization Act”.

SEC. 702. DEFINITIONS.

For the purposes of this title, the term—

(1) “automate” means to replace employees with automated weather service equipment;

(2) “change operations at a field office” means transfer service responsibility, commission weather observation systems, decommission a National Weather Service radar, change staffing levels significantly, or move a field office to a new location inside the local commuting and service area;

(3) “Committee” means the Modernization Transition Committee established by section 707;

(4) “degradation of service” means any decrease in or failure to maintain the quality and type of weather services provided by the National Weather Service to the public in a service area, including but not limited to a reduction in existing weather radar coverage at an elevation of 10,000 feet;

(5) “field office” means any National Weather Service Office or National Weather Service Forecast Office;

(6) “Plan” means the National Implementation Plan required under section 703;

(7) “relocate” means to transfer from one location to another location that is outside the local commuting or service area;

(8) “Secretary” means the Secretary of Commerce;

(9) “service area” means the geographical area for which a field office provides services or conducts observations, including but not limited to local forecasts, severe weather warnings, aviation support, radar coverage, and ground weather observations; and

(10) “Strategic Plan” means the 10-year strategic plan for the comprehensive modernization of the National Weather Service, required under section 407 of the National Aero-

¹This title was enacted as title VII of the National Oceanic and Atmospheric Administration Authorization Act of 1992 (Public Law 102-567), which is included elsewhere in this compilation.

navitics and Space Administration Authorization Act, Fiscal Year 1989 (15 U.S.C. 313 note).

SEC. 703. NATIONAL IMPLEMENTATION PLAN.

(a) NATIONAL IMPLEMENTATION PLAN.—As part of the budget justification documents submitted to Congress in support of the annual budget request for the Department of Commerce, the Secretary shall include a National Implementation Plan for modernization of the National Weather Service for each fiscal year following fiscal year 1993 until such modernization is complete. The Plan shall set forth the actions, during the 2-year period beginning with the fiscal year for which the budget request is made, that will be necessary to accomplish the objectives described in the Strategic Plan, and shall include—

(1) detailed requirements for new technologies, facilities, staffing levels and positions, and funding, in accordance with the overall schedule for modernization;

(2) notification of any proposed action to change operations at a field office and the intended date of such operational change;

(3) identification of any field office that the Secretary intends to certify under section 706, including the intended date of such certification;

(4) special measures to test, evaluate, and demonstrate key elements of the modernized National Weather Service operations prior to national implementation, including a multistation operational demonstration which tests the performance of the modernization in an integrated manner for a sustained period;

(5) detailed plans and funding requirements for meteorological research to be accomplishment under this title to assure that new techniques in forecasting will be developed to utilize the new technologies being implemented in the modernization; and

(6) training and education programs to ensure that employees gain the necessary expertise to utilize the new technologies and to minimize employee displacement as a consequence of modernization.

(b) TRANSMITTAL TO COMMITTEE.—The Secretary shall transmit a copy of each annual Plan to the Committee.

(c) CONSULTATION.—In developing the Plan, the Secretary shall consult, as appropriate, with the Committee and public entities responsible for providing or utilizing weather services.

SEC. 704. MODERNIZATION CRITERIA.

(a) NATIONAL RESEARCH COUNCIL REVIEW.—The Secretary shall contract with the National Research Council for a review of the scientific and technical modernization criteria by which the Secretary proposes to certify action to close, consolidate, automate, or relocate a field office under section 706. In conducting such review, the National Research Council shall prepare and submit to the Secretary, no later than 9 months after the date of enactment of this Act, a report which—

(1) assesses requirements and procedures for commissioning new weather observation systems, decommissioning an

outdated National Weather Service radar, and evaluating staffing needs for field offices in an affected service area;

(2) assesses the statistical and analytical measures that should be made for a service area to form an adequate basis for determining that there will be no degradation of service; and

(3) includes such other recommendations as the National Research Council determines are appropriate to ensure public safety.

(b) CRITERIA.—No later than 12 months after the date of enactment of this Act, the Secretary, in consultation with the National Research Council and the Committee and after notice and opportunity for public comment, shall publish in the Federal Register modernization criteria (including all requirements and procedures), based on the report required under this section, for—

(1) commissioning new weather observation systems, decommissioning an outdated National Weather Service radar, and evaluating staffing needs for field offices in an affected service area; and

(2) certifying action to close, consolidate, automate, or relocate a field office under section 706.

SEC. 705. CHANGES IN FIELD OFFICE OPERATIONS.

(a) NOTIFICATION.—The Secretary shall not change operations at a field office pursuant to implementation of the Strategic Plan unless the Secretary has provided the notification required by section 703.

(b) WEATHER RADAR DECOMMISSIONING.—The Secretary shall not remove or permanently decommission any National Weather Service radar until the Secretary has prepared radar commissioning and decommissioning reports documenting that such action would be consistent with the modernization criteria established under section 704(b)(1). The commissioning report shall document that the radar system performs reliably, satisfactory maintenance support is in place, sufficient staff with adequate training are present to operate the system, technical coordination with weather service users has been completed, and the radar being commissioned satisfactorily supports field office operations. The decommissioning report shall document that the replacement radar has been commissioned, technical coordination with service users has been completed, and the radar being decommissioned is no longer needed to support field office operations.

(c) SURFACE OBSERVING SYSTEM COMMISSIONING.—The Secretary may not commission an automated surface observing system located at an airport unless it is determined, in consultation with the Secretary of Transportation, that the weather services provided after commissioning will continue to be in full compliance with applicable flight aviation rules promulgated by the Federal Aviation Administration.

SEC. 706. RESTRUCTURING FIELD OFFICES.¹

SEC. 706. (a) PROHIBITION.—The Secretary shall not close, before January 1, 1996, any field office pursuant to implementation of the Strategic Plan.

¹ So in law.

(b) **CERTIFICATION.**—The Secretary shall not close, consolidate, automate, or relocate any field office, unless the Secretary has certified that such action will not result in any degradation of service. Such certification shall include—

(1) a description of local weather characteristics and weather-related concerns which affect the weather services provided within the service area;

(2) a detailed comparison of the services provided within the service area and the services to be provided after such action;

(3) a description of any recent or expected modernization of National Weather Service operations which will enhance services in the service area;

(4) an identification of any area within any State which would not receive coverage (at an elevation of 10,000 feet) by the next generation weather radar network;

(5) evidence, based upon operational demonstration of modernized National Weather Service operations, which was considered in reaching the conclusion that no degradation in service will result from such action; and

(6) any report of the Committee submitted under section 707(c) that evaluates the proposed certification.

(c) **PUBLIC REVIEW.**—Each certification decision shall be preceded by—

(1) publication in the Federal Register of a proposed certification; and

(2) a 60-day period after such publication during which the public may provide comments to the Secretary on the proposed certification.

(d) **FINAL DECISION.**—If after consideration of the public comment received under subsection (c) the Secretary, in consultation with the Committee, decides to close, consolidate, automate, or relocate any such field office, the Secretary shall publish a final certification in the Federal Register and submit the certification to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives¹.

(e) **SPECIAL CIRCUMSTANCES.**—The Secretary may not close or relocate any field office—

(1) which is located at an airport, unless the Secretary, in consultation with the Secretary of Transportation and the Committee, first conducts an air safety appraisal, determines that such action will not result in degradation of service that affects aircraft safety, and includes such determination in the certification required under subsection (b); or

(2) which is the only office in a State, unless the Secretary first evaluates the effect on weather services provided to in-State users, such as State agencies, civil defense officials, and local public safety offices, and includes in the certification required under subsection (b) the Secretary's determination that a comparable level of weather services provided to such in-State users will remain.

¹In accordance with section 1(a)(10) of Public Law 104-14 (109 Stat. 187), "the Committee on Science, Space, and Technology of the House of Representatives shall be treated as referring to the Committee on Science of the House of Representatives".

(f) LIAISON OFFICER.—The Secretary may not close, consolidate, automate, or relocate a field office until arrangements have been made to maintain for a period of at least 2 years at least one person in the service area to act as a liaison officer who—

(1) provides timely information regarding the activities of the National Weather Service which may affect service to the community, including modernization and restructuring; and

(2) works with area weather service users, including persons associated with general aviation, civil defense, emergency preparedness, and the news media, with respect to the provision of timely weather warnings and forecasts.

SEC. 707. MODERNIZATION TRANSITION COMMITTEE.

(a) ESTABLISHMENT.—There is established a committee of 12 members to be known as the Modernization Transition Committee.

(b) MEMBERSHIP AND TERMS.—(1) The Committee shall consist of—

(A) five members representing agencies and departments of the United States which are responsible for providing or using weather services, including but not limited to the National Weather Service, the Department of Defense, the Federal Aviation Administration, and the Federal Emergency Management Agency; and

(B) seven members to be appointed by the Secretary from civil defense and public safety organizations, news media, any labor organization certified by the Federal Labor Relations Authority as an exclusive representative of weather service employees, meteorological experts, and private sector users of weather information such as pilots and farmers.

(2) The terms of office of a member of the Committee shall be 3 years; except that, of the original membership, four shall serve a 5-year term, four shall serve a 4-year term, and four shall serve a 3-year term. No individual may serve for more than one additional 3-year term.

(3) The Secretary shall designate a chairman of the Committee from among its members.

(c) DUTIES.—(1) The Committee may review any proposed certification under section 706 for which the Secretary has provided a notice of intent to certify in the Plan, and should review such a proposed certification if there is a significant possibility of degradation of service within the affected service area. Upon the request of the Committee, the Secretary shall make available to the Committee the supporting documents developed by the Secretary in connection with the proposed certification. The Committee may prepare and submit to the Secretary, prior to publication of the proposed certification, a report which evaluates the proposed certification on the basis of the modernization criteria and with respect to the requirement that there be no degradation of service.

(2) The Committee shall advise the Congress and the Secretary on—

(A) the implementation of the Strategic Plan, annual development of the Plan, and establishment and implementation of modernization criteria; and

(B) matters of public safety and the provision of weather services which relate to the comprehensive modernization of the National Weather Service.

(d) **PAY AND TRAVEL EXPENSES.**—Members of the Committee who are not employees of the United States shall each be paid at a rate equal to the daily equivalent of the rate for GS-18 of the General Schedule under section 5332 of title 5, United States Code, for each day (including travel time) during which the member is engaged in the actual performance of duties vested in the Committee. Members shall receive travel expenses, including per diem in lieu of subsistence, as authorized by section 5703 of title 5, United States Code.

(e) **STAFF.**—The Secretary shall make available to the Committee such staff, information, and assistance as it may reasonably require to carry out its activities.

(f) **TERMINATION.**—The Committee shall terminate on December 31, 1999.

SEC. 708. WEATHER SERVICE REPORT.

(a) **REPORT.**—The Secretary shall prepare a report on the proposed modernization of the National Weather Service and transmit the report, not later than 6 months after the date of enactment of this Act, to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives¹.

(b) **CONTENTS.**—(1) The report required by subsection (a) shall identify the size of the geographic area of responsibility of each proposed Weather Forecast Office and shall include an explanation of the number and type of personnel required at each Weather Forecast Office. For each proposed Weather Forecast Office covering a geographic area greater than two times the average geographic area of responsibility of Weather Forecast Offices nationwide, the report shall detail the reasons for assigning those Weather Forecast Offices a geographic area which differs significantly from the national average.

(2) The report shall list the number of next generation weather radars that will be associated with each Weather Forecast Office nationwide under the proposed modernization plan. If some Weather Forecast Offices will be associated with more than one such radar, the report shall explain the deviation from the National Weather Service's stated policy of associating one such radar with one Weather Forecast Office, and shall analyze and compare any differences in the expected efficiency of those Weather Forecast Offices with Weather Forecast Offices that will be associated with only one such radar.

(c) **CONSULTATION.**—In preparing portions of the report that address Weather Forecast Offices located in areas of the Nation that are uniquely dependent on general aviation as a means of transportation, the Secretary shall consult with local aviation groups. In the case of Alaska, such local groups shall include the Alaska Aviation Safety Foundation, the Alaska Airmen's Associa-

¹ In accordance with section 1(a)(10) of Public Law 104-14 (109 Stat. 187), "the Committee on Science, Space, and Technology of the House of Representatives shall be treated as referring to the Committee on Science of the House of Representatives".

tion, and the regional representatives of the Aircraft Owners and Pilots Association.

SEC. 709. REPEALS.

The National Aeronautics and Space Administration Authorization Act, Fiscal Year 1989 (15 U.S.C. 313 note), is amended by repealing—

- (1) subsections (b), (c), and (d) of section 407; and
- (2) section 408.

AMERICAN TECHNOLOGY PREEMINENCE ACT OF 1991

AN ACT To authorize appropriations for the National Institute of Standards and Technology and the Technology Administration of the Department of Commerce, and for other purposes.

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

SECTION 1. [15 U.S.C. 3701 note] SHORT TITLE.

This Act may be cited as the “American Technology Preeminence Act of 1991”.

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TITLE I—DEPARTMENT OF COMMERCE RESEARCH AND TECHNOLOGY

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SEC. 108. [15 U.S.C. 3704b-2] TRANSFER OF FEDERAL SCIENTIFIC AND TECHNICAL INFORMATION.

(a) **TRANSFER.**—The head of each Federal executive department or agency shall transfer in a timely manner to the National Technical Information Service unclassified scientific, technical, and engineering information which results from federally funded research and development activities for dissemination to the private sector, academia, State and local governments, and Federal agencies. Only information which would otherwise be available for public dissemination shall be transferred under this subsection. Such information shall include technical reports and information, computer software, application assessments generated pursuant to section 11(c) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710(c)), and information regarding training technology and other federally owned or originated technologies. The Secretary shall issue regulations within one year after the date of enactment of this Act outlining procedures for the ongoing transfer of such information to the National Technical Information Service.

(b) **ANNUAL REPORT TO CONGRESS.**—As part of the annual report required under section 212(f)(3) of the National Technical Information Act of 1988, the Secretary shall report to Congress on the status of efforts under this section to ensure access to Federal scientific and technical information by the public. Such report shall include—

- (1) an evaluation of the comprehensiveness of transfers of information by each Federal executive department or agency under subsection (a);

- (2) a description of the use of Federal scientific and technical information;
- (3) plans for improving public access to Federal scientific and technical information; and
- (4) recommendations for legislation necessary to improve public access to Federal scientific and technical information.

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TITLE V—STUDIES AND REPORTS

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SEC. 504. [15 U.S.C. 3716] CRITICAL INDUSTRIES.

(a) IDENTIFICATION OF INDUSTRIES AND DEVELOPMENT OF PLAN.—The Secretary shall—

(1) identify those civilian industries in the United States that are necessary to support a robust manufacturing infrastructure and critical to the economic security of the United States; and

(2) list the major research and development initiatives being undertaken, and the substantial investments being made, by the Federal Government, including its research laboratories, in each of the critical industries identified under paragraph (1).

(b) INITIAL REPORT.—The Secretary shall submit a report to the Congress within 1 year after the date of enactment of this Act on the actions taken under subsection (a).

(c) ANNUAL UPDATES.—The Secretary shall annually submit to the Congress an update of the report submitted under subsection (b). Each such update shall—

(1) describe the status of each identified critical industry, including the advances and declines occurring since the most recent report; and

(2) identify any industries that should be added to the list of critical industries.

* * * * *

SEC. 507. [15 U.S.C. 3717] NATIONAL QUALITY COUNCIL.

(a) ESTABLISHMENT AND FUNCTIONS.—There is established a National Quality Council (hereafter in this section referred to as the “Council”). The functions of the Council shall be—

(1) to establish national goals and priorities for Quality performance in business, education, government, and all other sectors of the Nation;

(2) to encourage and support the voluntary adoption of these goals and priorities by companies, unions, professional and business associations, coalition groups, and units of government, as well as private and nonprofit organizations;

(3) to arouse and maintain the interest of the people of the United States in Quality performance, and to encourage the adoption and institution of Quality performance methods by all corporations, government agencies, and other organizations; and

(4) to conduct a White House Conference on Quality Performance in the American Workplace that would bring together in a single forum national leaders in business, labor, education,

professional societies, the media, government, and politics to address Quality performance as a means of improving United States competitiveness.

(b) **MEMBERSHIP.**—The Council shall consist of not less than 17 or more than 20 members, appointed by the Secretary. Members shall include—

(1) at least 2 but not more than 3 representatives from manufacturing industry;

(2) at least 2 but not more than 3 representatives from service industry;

(3) at least 2 but not more than 3 representatives from national Quality not-for-profit organizations;

(4) two representatives from education, one with expertise in elementary and secondary education, and one with expertise in post-secondary education;

(5) one representative from labor;

(6) one representative from professional societies;

(7) one representative each from local and State government;

(8) one representative from the Federal Quality Institute;

(9) one representative from the National Institute of Standards and Technology;

(10) one representative from the Department of Defense;

(11) one representative from a civilian Federal agency not otherwise represented on the Council, to be rotated among such agencies every 2 years; and

(12) one representative from the Foundation for the Malcolm Baldrige National Quality Award.

(c) **TERMS.**—The term of office of each member of the Council appointed under paragraphs (1) through (7) of subsection (b) shall be 2 years, except that when making the initial appointments under such paragraphs; the Secretary shall appoint not more than 50 percent of the members to 1 year terms. No member appointed under such paragraphs shall serve on the Council for more than 2 consecutive terms.

(d) **CHAIRMAN AND VICE CHAIRMAN.**—The Secretary shall designate one of the members initially appointed to the Council as Chairman. Thereafter, the members of the Council shall annually elect one of their number as Chairman. The members of the Council shall also annually elect one of their members as Vice Chairman. No individual shall serve as Chairman or Vice Chairman for more than 2 consecutive years.

(e) **EXECUTIVE DIRECTOR AND EMPLOYEES.**—The Council shall appoint and fix the compensation of an Executive Director, who shall hire and fix the compensation of such additional employees as may be necessary to assist the Council in carrying out its functions. In hiring such additional employees, the Executive Director shall ensure that no individual hired has a conflict of interest with the responsibilities of the Council.

(f) **FUNDING.**—There is established in the Treasury of the United States a National Quality Performance Trust Fund, into which all funds received by the Council, through private donations or otherwise, shall be deposited. Amounts in such Trust Fund shall be available to the Council, to the extent provided in advance in

appropriations Acts, for the purpose of carrying out the functions of the Council under this Act.

(g) CONTRIBUTIONS.—The Council may not accept private donations from a single source in excess of \$25,000 per year. Private donations from a single source in excess of \$10,000 per year may be accepted by the Council only on approval of two-thirds of the Council.

(h) ANNUAL REPORT.—The Council shall annually submit to the President and the Congress a comprehensive and detailed report on—

(1) the progress in meeting the goals and priorities established by the Council;

(2) the Council's operations, activities, and financial condition;

(3) contributions to the Council from non-Federal sources;

(4) plans for the Council's operations and activities for the future; and

(5) any other information or recommendations the Council considers appropriate.

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BAYH-DOLE ACT¹

(CHAPTER 18 OF TITLE 35, UNITED STATES CODE)

CHAPTER 18—PATENT RIGHTS IN INVENTIONS MADE WITH FEDERAL ASSISTANCE

Sec.	
200.	Policy and objective.
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§ 200. Policy and objective

It is the policy and objective of the Congress to use the patent system to promote the utilization of inventions arising from federally supported research or development; to encourage maximum participation of small business firms in federally supported research and development efforts; to promote collaboration between commercial concerns and nonprofit organizations, including universities; to ensure that inventions made by nonprofit organizations and small business firms are used in a manner to promote free competition and enterprise without unduly encumbering future research and discovery; to promote the commercialization and public availability of inventions made in the United States by United States industry and labor; to ensure that the Government obtains sufficient rights in federally supported inventions to meet the needs of the Government and protect the public against nonuse or unreasonable use of inventions; and to minimize the costs of administering policies in this area.

§ 201. Definitions

As used in this chapter—

(a) The term “Federal agency” means any executive agency as defined in section 105 of title 5, and the military departments as defined by section 102 of title 5.

¹The Bayh-Dole Act is the popular name of section 6(a) of Public Law 96-517, which enacted this chapter of title 35, United States Code.

(b) The term “funding agreement” means any contract, grant, or cooperative agreement entered into between any Federal agency, other than the Tennessee Valley Authority, and any contractor for the performance of experimental, developmental, or research work funded in whole or in part by the Federal Government. Such term includes any assignment, substitution of parties, or subcontract of any type entered into for the performance of experimental, developmental, or research work under a funding agreement as herein defined.

(c) The term “contractor” means any person, small business firm, or nonprofit organization that is a party to a funding agreement.

(d) The term “invention” means any invention or discovery which is or may be patentable or otherwise protectable under this title or any novel variety of plant which is or may be protectable under the Plant Variety Protection Act (7 U.S.C. 2321 et seq.).

(e) The term “subject invention” means any invention of the contractor conceived or first actually reduced to practice in the performance of work under a funding agreement: *Provided*, That in the case of a variety of plant, the date of determination (as defined in section 41(d) of the Plant Variety Protection Act (7 U.S.C. 2401(d))) must also occur during the period of contract performance.

(f) The term “practical application” means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are to the extent permitted by law or Government regulations available to the public on reasonable terms.

(g) The term “made” when used in relation to any invention means the conception or first actual reduction to practice of such invention.

(h) The term “small business firm” means a small business concern as defined at section 2 of Public Law 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration.

(i) The term “nonprofit organization” means universities and other institutions of higher education or an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1986 (26 U.S.C. 501(c)) and exempt from taxation under section 501(a) of the Internal Revenue Code (26 U.S.C. 501(a)) or any nonprofit scientific or educational organization qualified under a State nonprofit organization statute.

§ 202. Disposition of rights

(a) Each nonprofit organization or small business firm may, within a reasonable time after disclosure as required by paragraph (c)(1) of this section, elect to retain title to any subject invention: *Provided, however*, That a funding agreement may provide otherwise (i) when the contractor is not located in the United States or does not have a place of business located in the United States or is subject to the control of a foreign government, (ii) in exceptional circumstances when it is determined by the agency that restriction

or elimination of the right to retain title to any subject invention will better promote the policy and objectives of this chapter (iii) when it is determined by a Government authority which is authorized by statute or Executive order to conduct foreign intelligence or counter-intelligence activities that the restriction or elimination of the right to retain title to any subject invention is necessary to protect the security of such activities or, (iv) when the funding agreement includes the operation of a Government-owned, contractor-operated facility of the Department of Energy primarily dedicated to that Department's naval nuclear propulsion or weapons related programs and all funding agreement limitations under this subparagraph on the contractor's right to elect title to a subject invention are limited to inventions occurring under the above two programs of the Department of Energy. The rights of the nonprofit organization or small business firm shall be subject to the provisions of paragraph (c) of this section and the other provisions of this chapter.

(b)(1) The rights of the Government under subsection (a) shall not be exercised by a Federal agency unless it first determines that at least one of the conditions identified in clauses (i) through (iv) of subsection (a) exists. Except in the case of subsection (a)(iii), the agency shall file with the Secretary of Commerce, within thirty days after the award of the applicable funding agreement, a copy of such determination. In the case of a determination under subsection (a)(ii), the statement shall include an analysis justifying the determination. In the case of determinations applicable to funding agreements with small business firms, copies shall also be sent to the Chief Counsel for Advocacy of the Small Business Administration. If the Secretary of Commerce believes that any individual determination or pattern of determinations is contrary to the policies and objectives of this chapter or otherwise not in conformance with this chapter, the Secretary shall so advise the head of the agency concerned and the Administrator of the Office of Federal Procurement Policy, and recommend corrective actions.

(2) Whenever the Administrator of the Office of Federal Procurement Policy has determined that one or more Federal agencies are utilizing the authority of clause (i) or (ii) of subsection (a) of this section in a manner that is contrary to the policies and objectives of this chapter, the Administrator is authorized to issue regulations describing classes of situations in which agencies may not exercise the authorities of those clauses.

(3) At least once every 5 years, the Comptroller General shall transmit a report to the Committees on the Judiciary of the Senate and House of Representatives on the manner in which this chapter is being implemented by the agencies and on such other aspects of Government patent policies and practices with respect to federally funded inventions as the Comptroller General believes appropriate.

(4) If the contractor believes that a determination is contrary to the policies and objectives of this chapter or constitutes an abuse of discretion by the agency, the determination shall be subject to the section 203(b).

(c) Each funding agreement with a small business firm or nonprofit organization shall contain appropriate provisions to effectuate the following:

(1) That the contractor disclose each subject invention to the Federal agency within a reasonable time after it becomes known to contractor personnel responsible for the administration of patent matters, and that the Federal Government may receive title to any subject invention not disclosed to it within such time.

(2) That the contractor make a written election within two years after disclosure to the Federal agency (or such additional time as may be approved by the Federal agency) whether the contractor will retain title to a subject invention: *Provided*, That in any case where publication, on sale, or public use, has initiated the one year statutory period in which valid patent protection can still be obtained in the United States, the period for election may be shortened by the Federal agency to a date that is not more than sixty days prior to the end of the statutory period: *And provided further*, That the Federal Government may receive title to any subject invention in which the contractor does not elect to retain rights or fails to elect rights within such times.

(3) That a contractor electing rights in a subject invention agrees to file a patent application prior to any statutory bar date that may occur under this title due to publication, on sale, or public use, and shall thereafter file corresponding patent applications in other countries in which it wishes to retain title within reasonable times, and that the Federal Government may receive title to any subject inventions in the United States or other countries in which the contractor has not filed patent applications on the subject invention within such times.

(4) With respect to any invention in which the contractor elects rights, the Federal agency shall have a nonexclusive, nontransferrable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States any subject invention throughout the world: *Provided*, That the funding agreement may provide for such additional rights, including the right to assign or have assigned foreign patent rights in the subject invention, as are determined by the agency as necessary for meeting the obligations of the United States under any treaty, international agreement, arrangement of cooperation, memorandum of understanding, or similar arrangement, including military agreement relating to weapons development and production.

(5) The right of the Federal agency to require periodic reporting on the utilization or efforts at obtaining utilization that are being made by the contractor or his licensees or assignees: *Provided*, That any such information as well as any information on utilization or efforts at obtaining utilization obtained as part of a proceeding under section 203 of this chapter shall be treated by the Federal agency as commercial and financial information obtained from a person and privileged and confidential and not subject to disclosure under section 552 of title 5.

(6) An obligation on the part of the contractor, in the event a United States patent application is filed by or on its behalf or by any assignee of the contractor, to include within the specification of such application and any patent issuing thereon, a statement specifying that the invention was made with Gov-

ernment support and that the Government has certain rights in the invention.

(7) In the case of a nonprofit organization, (A) a prohibition upon the assignment of rights to a subject invention in the United States without the approval of the Federal agency, except where such assignment is made to an organization which has as one of its primary functions the management of inventions (provided that such assignee shall be subject to the same provisions as the contractor); (B) a requirement that the contractor share royalties with the inventor; (C) except with respect to a funding agreement for the operation of a Government-owned-contractor-operated facility, a requirement that the balance of any royalties or income earned by the contractor with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions, be utilized for the support of scientific research or education; (D) a requirement that, except where it proves infeasible after a reasonable inquiry, in the licensing of subject inventions shall be given to small business firms; and (E) with respect to a funding agreement for the operation of a Government-owned-contractor-operated facility, requirements (i) that after payment of patenting costs, licensing costs, payments to inventors, and other expenses incidental to the administration of subject inventions, 100 percent of the balance of any royalties or income earned and retained by the contractor during any fiscal year up to an amount equal to 5 percent of the annual budget of the facility, shall be used by the contractor for scientific research, development, and education consistent with the research and development mission and objectives of the facility, including activities that increase the licensing potential of other inventions of the facility; provided that if said balance exceeds 5 percent of the annual budget of the facility, that 75 percent of such excess shall be paid to the Treasury of the United States and the remaining 25 percent shall be used for the same purposes as described above in this clause (D); and (ii) that, to the extent it provides the most effective technology transfer, the licensing of subject inventions shall be administered by contractor employees on location at the facility.

(8) The requirements of sections 203 and 204 of this chapter.

(d) If a contractor does not elect to retain title to a subject invention in cases subject to this section, the Federal agency may consider and after consultation with the contractor grant requests for retention of rights by the inventor subject to the provisions of this Act and regulations promulgated hereunder.

(e) In any case when a Federal employee is a coinventor of any invention made with a nonprofit organization, a small business firm, or a non-Federal inventor, the Federal agency employing such coinventor may, for the purpose of consolidating rights in the invention and if it finds that it would expedite the development of the invention—

(1) license or assign whatever rights it may acquire in the subject invention to the nonprofit organization, small business

firm, or non-Federal inventor in accordance with the provisions of this chapter; or

(2) acquire any rights in the subject invention from the nonprofit organization, small business firm, or non-Federal inventor, but only to the extent the party from whom the rights are acquired voluntarily enters into the transaction and no other transaction under this chapter is conditioned on such acquisition.

(f)(1) No funding agreement with a small business firm or nonprofit organization shall contain a provision allowing a Federal agency to require the licensing to third parties of inventions owned by the contractor that are not subject inventions unless such provision has been approved by the head of the agency and a written justification has been signed by the head of the agency. Any such provision shall clearly state whether the licensing may be required in connection with the practice of a subject invention, a specifically identified work object, or both. The head of the agency may not delegate the authority to approve provisions or sign justifications required by this paragraph.

(2) A Federal agency shall not require the licensing of third parties under any such provision unless the head of the agency determines that the use of the invention by others is necessary for the practice of a subject invention or for the use of a work object of the funding agreement and that such action is necessary to achieve the practical application of the subject invention or work object. Any such determination shall be on the record after an opportunity for an agency hearing. Any action commenced for judicial review of such determination shall be brought within sixty days after notification of such determination.

§ 203. March-in rights

(a) With respect to any subject invention in which a small business firm or nonprofit organization has acquired title under this chapter, the Federal agency under whose funding agreement the subject invention was made shall have the right, in accordance with such procedures as are provided in regulations promulgated hereunder to require the contractor, an assignee or exclusive licensee of a subject invention to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the contractor, assignee, or exclusive licensee refuses such request, to grant such a license itself, if the Federal agency determines that such—

(1) action is necessary because the contractor or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use;

(2) action is necessary to alleviate health or safety needs which are not reasonably satisfied by the contractor, assignee, or their licensees;

(3) action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the contractor, assignee, or licensees; or

(4) action is necessary because the agreement required by section 204 has not been obtained or waived or because a li-

censee of the exclusive right to use or sell any subject invention in the United States is in breach of its agreement obtained pursuant to section 204.

(b) A determination pursuant to this section or section 202(b)(4) shall not be subject to the Contract Disputes Act (41 U.S.C. § 601 et seq.). An administrative appeals procedure shall be established by regulations promulgated in accordance with section 206. Additionally, any contractor, inventor, assignee, or exclusive licensee adversely affected by a determination under this section may, at any time within sixty days after the determination is issued, file a petition in the United States Court of Federal Claims, which shall have jurisdiction to determine the appeal on the record and to affirm, reverse, remand or modify, as appropriate, the determination of the Federal agency. In cases described in paragraphs (1) and (3) of subsection (a), the agency's determination shall be held in abeyance pending the exhaustion of appeals or petitions filed under the preceding sentence.

§ 204. Preference for United States industry

Notwithstanding any other provision of this chapter, no small business firm or nonprofit organization which receives title to any subject invention and no assignee of any such small business firm or nonprofit organization shall grant to any person the exclusive right to use or sell any subject invention in the United States unless such person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by the Federal agency under whose funding agreement the invention was made upon a showing by the small business firm, nonprofit organization, or assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

§ 205. Confidentiality

Federal agencies are authorized to withhold from disclosure to the public information disclosing any invention in which the Federal Government owns or may own a right, title, or interest (including a nonexclusive license) for a reasonable time in order for a patent application to be filed. Furthermore, Federal agencies shall not be required to release copies of any document which is part of an application for patent filed with the United States Patent and Trademark Office or with any foreign patent office.

§ 206. Uniform clauses and regulations

The Secretary of Commerce may issue regulations which may be made applicable to Federal agencies implementing the provisions of sections 202 through 204 of this chapter and shall establish standard funding agreement provisions required under this chapter. The regulations and the standard funding agreement shall be subject to public comment before their issuance.

§ 207. Domestic and foreign protection of federally owned inventions

(a) Each Federal agency is authorized to—

(1) apply for, obtain, and maintain patents or other forms of protection in the United States and in foreign countries on inventions in which the Federal Government owns a right, title, or interest;

(2) grant nonexclusive, exclusive, or partially exclusive licenses under federally owned inventions, royalty-free or for royalties or other consideration, and on such terms and conditions, including the grant to the licensee of the right of enforcement pursuant to the provisions of chapter 29 of this title as determined appropriate in the public interest;

(3) undertake all other suitable and necessary steps to protect and administer rights to federally owned inventions on behalf of the Federal Government either directly or through contract, including acquiring rights for and administering royalties to the Federal Government in any invention, but only to the extent the party from whom the rights are acquired voluntarily enters into the transaction, to facilitate the licensing of a federally owned invention; and

(4) transfer custody and administration, in whole or in part, to another Federal agency, of the right, title, or interest in any federally owned invention.

(b) For the purpose of assuring the effective management of Government-owned inventions, the Secretary of Commerce is authorized to—

(1) assist Federal agency efforts to promote the licensing and utilization of Government-owned inventions;

(2) assist Federal agencies in seeking protection and maintaining inventions in foreign countries, including the payment of fees and costs connected therewith; and

(3) consult with and advise Federal agencies as to areas of science and technology research and development with potential for commercial utilization.

§ 208. Regulations governing Federal licensing

The Secretary of Commerce is authorized to promulgate regulations specifying the terms and conditions upon which any federally owned invention, other than inventions owned by the Tennessee Valley Authority, may be licensed on a nonexclusive, partially exclusive, or exclusive basis.

§ 209. Licensing federally owned inventions

(a) **AUTHORITY.**—A Federal agency may grant an exclusive or partially exclusive license on a federally owned invention under section 207(a)(2) only if—

(1) granting the license is a reasonable and necessary incentive to—

(A) call forth the investment capital and expenditures needed to bring the invention to practical application; or

(B) otherwise promote the invention's utilization by the public;

(2) the Federal agency finds that the public will be served by the granting of the license, as indicated by the applicant's intentions, plans, and ability to bring the invention to practical application or otherwise promote the invention's utilization by the public, and that the proposed scope of exclusivity is not greater than reasonably necessary to provide the incentive for bringing the invention to practical application, as proposed by the applicant, or otherwise to promote the invention's utilization by the public;

(3) the applicant makes a commitment to achieve practical application of the invention within a reasonable time, which time may be extended by the agency upon the applicant's request and the applicant's demonstration that the refusal of such extension would be unreasonable;

(4) granting the license will not tend to substantially lessen competition or create or maintain a violation of the Federal antitrust laws; and

(5) in the case of an invention covered by a foreign patent application or patent, the interests of the Federal Government or United States industry in foreign commerce will be enhanced.

(b) **MANUFACTURE IN UNITED STATES.**—A Federal agency shall normally grant a license under section 207(a)(2) to use or sell any federally owned invention in the United States only to a licensee who agrees that any products embodying the invention or produced through the use of the invention will be manufactured substantially in the United States.

(c) **SMALL BUSINESS.**—First preference for the granting of any exclusive or partially exclusive licenses under section 207(a)(2) shall be given to small business firms having equal or greater likelihood as other applicants to bring the invention to practical application within a reasonable time.

(d) **TERMS AND CONDITIONS.**—Any licenses granted under section 207(a)(2) shall contain such terms and conditions as the granting agency considers appropriate, and shall include provisions—

(1) retaining a nontransferable, irrevocable, paid-up license for any Federal agency to practice the invention or have the invention practiced throughout the world by or on behalf of the Government of the United States;

(2) requiring periodic reporting on utilization of the invention, and utilization efforts, by the licensee, but only to the extent necessary to enable the Federal agency to determine whether the terms of the license are being complied with, except that any such report shall be treated by the Federal agency as commercial and financial information obtained from a person and privileged and confidential and not subject to disclosure under section 552 of title 5; and

(3) empowering the Federal agency to terminate the license in whole or in part if the agency determines that—

(A) the licensee is not executing its commitment to achieve practical application of the invention, including commitments contained in any plan submitted in support of its request for a license, and the licensee cannot otherwise demonstrate to the satisfaction of the Federal agency that it has taken, or can be expected to take within a rea-

sonable time, effective steps to achieve practical application of the invention;

(B) the licensee is in breach of an agreement described in subsection (b);

(C) termination is necessary to meet requirements for public use specified by Federal regulations issued after the date of the license, and such requirements are not reasonably satisfied by the licensee; or

(D) the licensee has been found by a court of competent jurisdiction to have violated the Federal antitrust laws in connection with its performance under the license agreement.

(e) PUBLIC NOTICE.—No exclusive or partially exclusive license may be granted under section 207(a)(2) unless public notice of the intention to grant an exclusive or partially exclusive license on a federally owned invention has been provided in an appropriate manner at least 15 days before the license is granted, and the Federal agency has considered all comments received before the end of the comment period in response to that public notice. This subsection shall not apply to the licensing of inventions made under a cooperative research and development agreement entered into under section 12 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a).

(f) PLAN.—No Federal agency shall grant any license under a patent or patent application on a federally owned invention unless the person requesting the license has supplied the agency with a plan for development or marketing of the invention, except that any such plan shall be treated by the Federal agency as commercial and financial information obtained from a person and privileged and confidential and not subject to disclosure under section 552 of title 5.

§ 210. Precedence of chapter

(a) This chapter shall take precedence over any other Act which would require a disposition of rights in subject inventions of small business firms or nonprofit organizations contractors in a manner that is inconsistent with this chapter, including but not necessarily limited to the following:

(1) section 10(a) of the Act of June 29, 1935, as added by title I of the Act of August 14, 1946 (7 U.S.C. 427i(a); 60 Stat. 1085);

(2) section 205(a) of the Act of August 14, 1946 (7 U.S.C. 1624(a); 60 Stat. 1090);

(3) section 501(c) of the Federal Mine Safety and Health Act of 1977 (30 U.S.C. 951(c); 83 Stat. 742);

(4) section 30168(e) of title 49;

(5) section 12 of the National Science Foundation Act of 1950 (42 U.S.C. 1871(a); 82 Stat. 360);

(6) section 152 of the Atomic Energy Act of 1954 (42 U.S.C. 2182; 68 Stat. 943);

(7) section 305 of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2457);

(8) section 6 of the Coal Research Development Act of 1960 (30 U.S.C. 666; 74 Stat. 337);

(9) section 4 of the Helium Act Amendments of 1960 (50 U.S.C. 167b; 74 Stat. 920);

(10) section 32 of the Arms Control and Disarmament Act of 1961 (22 U.S.C. 2572; 75 Stat. 634);

(11) section 9 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5908; 88 Stat. 1878);

(12) section 5(d) of the Consumer Product Safety Act (15 U.S.C. 2054(d); 86 Stat. 1211);

(13) section 3 of the Act of April 5, 1944 (30 U.S.C. 323; 58 Stat. 191);

(14) section 8001(c)(3) of the Solid Waste Disposal Act (42 U.S.C. 6981(c); 90 Stat. 2829);

(15) section 219 of the Foreign Assistance Act of 1961 (22 U.S.C. 2179; 83 Stat. 806);

(16) section 427(b) of the Federal Mine Health and Safety Act of 1977 (30 U.S.C. 937(b); 86 Stat. 155);

(17) section 306(d) of the Surface Mining and Reclamation Act of 1977 (30 U.S.C. 1226(d); 91 Stat. 455);

(18) section 21(d) of the Federal Fire Prevention and Control Act of 1974 (15 U.S.C. 2218(d); 88 Stat. 1548);

(19) section 6(b) of the Solar Photovoltaic Energy Research Development and Demonstration Act of 1978 (42 U.S.C. 5585(b); 92 Stat. 2516);

(20) section 12 of the Native Latex Commercialization and Economic Development Act of 1978 (7 U.S.C. 178j; 92 Stat. 2533); and

(21) section 408 of the Water Resources and Development Act of 1978 (42 U.S.C. 7879; 92 Stat. 1360).

The Act creating this chapter shall be construed to take precedence over any future Act unless that Act specifically cites this Act and provides that it shall take precedence over this Act.

(b) Nothing in this chapter is intended to alter the effect of the laws cited in paragraph (a) of this section or any other laws with respect to the disposition of rights in inventions made in the performance of funding agreements with persons other than nonprofit organizations or small business firms.

(c) Nothing in this chapter is intended to limit the authority of agencies to agree to the disposition of rights in inventions made in the performance of work under funding agreements with persons other than nonprofit organizations or small business firms in accordance with the Statement of Government Patent Policy issued on February 18, 1983, agency regulations, or other applicable regulations or to otherwise limit the authority of agencies to allow such persons to retain ownership of inventions except that all funding agreements, including those with other than small business firms and nonprofit organizations, shall include the requirements established in section 202(c)(4) and section 203 of this title. Any disposition of rights in inventions made in accordance with the Statement or implementing regulations, including any disposition occurring before enactment of this section, are hereby authorized.

(d) Nothing in this chapter shall be construed to require the disclosure of intelligence sources or methods or to otherwise affect the authority granted to the Director of Central Intelligence by statute or Executive order for the protection of intelligence sources or methods.

(e) The provisions of the Stevenson-Wydler Technology Innovation Act of 1980 shall take precedence over the provisions of this chapter to the extent that they permit or require a disposition of rights in subject inventions which is inconsistent with this chapter.

§ 211. Relationship to antitrust laws

Nothing in this chapter shall be deemed to convey to any person immunity from civil or criminal liability, or to create any defenses to actions, under any antitrust law.

§ 212. Disposition of rights in educational awards

No scholarship, fellowship, training grant, or other funding agreement made by a Federal agency primarily to an awardee for educational purposes will contain any provision giving the Federal agency any rights to inventions made by the awardee.

CYBER SECURITY RESEARCH AND DEVELOPMENT ACT

AN ACT To authorize funding for computer and network security research and development and research fellowship programs, and for other purposes.

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

SECTION 1. [15 U.S.C. 7401 note] SHORT TITLE.

This Act may be cited as the “Cyber Security Research and Development Act”.

SEC. 2. [15 U.S.C. 7401] FINDINGS.

The Congress finds the following:

(1) Revolutionary advancements in computing and communications technology have interconnected government, commercial, scientific, and educational infrastructures—including critical infrastructures for electric power, natural gas and petroleum production and distribution, telecommunications, transportation, water supply, banking and finance, and emergency and government services—in a vast, interdependent physical and electronic network.

(2) Exponential increases in interconnectivity have facilitated enhanced communications, economic growth, and the delivery of services critical to the public welfare, but have also increased the consequences of temporary or prolonged failure.

(3) A Department of Defense Joint Task Force concluded after a 1997 United States information warfare exercise that the results “clearly demonstrated our lack of preparation for a coordinated cyber and physical attack on our critical military and civilian infrastructure”.

(4) Computer security technology and systems implementation lack—

(A) sufficient long term research funding;

(B) adequate coordination across Federal and State government agencies and among government, academia, and industry; and

(C) sufficient numbers of outstanding researchers in the field.

(5) Accordingly, Federal investment in computer and network security research and development must be significantly increased to—

(A) improve vulnerability assessment and technological and systems solutions;

(B) expand and improve the pool of information security professionals, including researchers, in the United States workforce; and

(C) better coordinate information sharing and collaboration among industry, government, and academic research projects.

(6) While African-Americans, Hispanics, and Native Americans constitute 25 percent of the total United States workforce and 30 percent of the college-age population, members of these minorities comprise less than 7 percent of the United States computer and information science workforce.

SEC. 3. [15 U.S.C. 7402] DEFINITIONS.

In this Act:

(1) DIRECTOR.—The term “Director” means the Director of the National Science Foundation.

(2) INSTITUTION OF HIGHER EDUCATION.—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)).

SEC. 4. [15 U.S.C. 7403] NATIONAL SCIENCE FOUNDATION RESEARCH.

(a) COMPUTER AND NETWORK SECURITY RESEARCH GRANTS.—

(1) IN GENERAL.—The Director shall award grants for basic research on innovative approaches to the structure of computer and network hardware and software that are aimed at enhancing computer security. Research areas may include—

(A) authentication, cryptography, and other secure data communications technology;

(B) computer forensics and intrusion detection;

(C) reliability of computer and network applications, middleware, operating systems, control systems, and communications infrastructure;

(D) privacy and confidentiality;

(E) network security architecture, including tools for security administration and analysis;

(F) emerging threats;

(G) vulnerability assessments and techniques for quantifying risk;

(H) remote access and wireless security; and

(I) enhancement of law enforcement ability to detect, investigate, and prosecute cyber-crimes, including those that involve piracy of intellectual property.

(2) MERIT REVIEW; COMPETITION.—Grants shall be awarded under this section on a merit-reviewed competitive basis.

(3) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the National Science Foundation to carry out this subsection—

(A) \$35,000,000 for fiscal year 2003;

(B) \$40,000,000 for fiscal year 2004;

(C) \$46,000,000 for fiscal year 2005;

(D) \$52,000,000 for fiscal year 2006; and

(E) \$60,000,000 for fiscal year 2007.

(b) COMPUTER AND NETWORK SECURITY RESEARCH CENTERS.—

(1) IN GENERAL.—The Director shall award multiyear grants, subject to the availability of appropriations, to institu-

tions of higher education, nonprofit research institutions, or consortia thereof to establish multidisciplinary Centers for Computer and Network Security Research. Institutions of higher education, nonprofit research institutions, or consortia thereof receiving such grants may partner with 1 or more government laboratories or for-profit institutions, or other institutions of higher education or nonprofit research institutions.

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

(3) PURPOSE.—The purpose of the Centers shall be to generate innovative approaches to computer and network security by conducting cutting-edge, multidisciplinary research in computer and network security, including the research areas described in subsection (a)(1).

(4) APPLICATIONS.—An institution of higher education, nonprofit research institution, or consortia thereof seeking funding under this subsection shall submit an application to the Director at such time, in such manner, and containing such information as the Director may require. The application shall include, at a minimum, a description of—

(A) the research projects that will be undertaken by the Center and the contributions of each of the participating entities;

(B) how the Center will promote active collaboration among scientists and engineers from different disciplines, such as computer scientists, engineers, mathematicians, and social science researchers;

(C) how the Center will contribute to increasing the number and quality of computer and network security researchers and other professionals, including individuals from groups historically underrepresented in these fields; and

(D) how the center will disseminate research results quickly and widely to improve cyber security in information technology networks, products, and services.

(5) CRITERIA.—In evaluating the applications submitted under paragraph (4), the Director shall consider, at a minimum—

(A) the ability of the applicant to generate innovative approaches to computer and network security and effectively carry out the research program;

(B) the experience of the applicant in conducting research on computer and network security and the capacity of the applicant to foster new multidisciplinary collaborations;

(C) the capacity of the applicant to attract and provide adequate support for a diverse group of undergraduate and graduate students and postdoctoral fellows to pursue computer and network security research; and

(D) the extent to which the applicant will partner with government laboratories, for-profit entities, other institutions of higher education, or nonprofit research institutions, and the role the partners will play in the research undertaken by the Center.

(6) ANNUAL MEETING.—The Director shall convene an annual meeting of the Centers in order to foster collaboration and communication between Center participants.

(7) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated for the National Science Foundation to carry out this subsection—

- (A) \$12,000,000 for fiscal year 2003;
- (B) \$24,000,000 for fiscal year 2004;
- (C) \$36,000,000 for fiscal year 2005;
- (D) \$36,000,000 for fiscal year 2006; and
- (E) \$36,000,000 for fiscal year 2007.

SEC. 5. [15 U.S.C. 7404] NATIONAL SCIENCE FOUNDATION COMPUTER AND NETWORK SECURITY PROGRAMS.

(a) COMPUTER AND NETWORK SECURITY CAPACITY BUILDING GRANTS.—

(1) IN GENERAL.—The Director shall establish a program to award grants to institutions of higher education (or consortia thereof) to establish or improve undergraduate and master's degree programs in computer and network security, to increase the number of students, including the number of students from groups historically underrepresented in these fields, who pursue undergraduate or master's degrees in fields related to computer and network security, and to provide students with experience in government or industry related to their computer and network security studies.

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

(3) USE OF FUNDS.—Grants awarded under this subsection shall be used for activities that enhance the ability of an institution of higher education (or consortium thereof) to provide high-quality undergraduate and master's degree programs in computer and network security and to recruit and retain increased numbers of students to such programs. Activities may include—

(A) revising curriculum to better prepare undergraduate and master's degree students for careers in computer and network security;

(B) establishing degree and certificate programs in computer and network security;

(C) creating opportunities for undergraduate students to participate in computer and network security research projects;

(D) acquiring equipment necessary for student instruction in computer and network security, including the installation of testbed networks for student use;

(E) providing opportunities for faculty to work with local or Federal Government agencies, private industry, nonprofit research institutions, or other academic institutions to develop new expertise or to formulate new research directions in computer and network security;

(F) establishing collaborations with other academic institutions or academic departments that seek to establish, expand, or enhance programs in computer and network security;

(G) establishing student internships in computer and network security at government agencies or in private industry;

(H) establishing collaborations with other academic institutions to establish or enhance a web-based collection of computer and network security courseware and laboratory exercises for sharing with other institutions of higher education, including community colleges;

(I) establishing or enhancing bridge programs in computer and network security between community colleges and universities; and

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

(4) SELECTION PROCESS.—

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

(i) a description of the applicant's computer and network security research and instructional capacity, and in the case of an application from a consortium of institutions of higher education, a description of the role that each member will play in implementing the proposal;

(ii) a comprehensive plan by which the institution or consortium will build instructional capacity in computer and information security;

(iii) a description of relevant collaborations with government agencies or private industry that inform the instructional program in computer and network security;

(iv) a survey of the applicant's historic student enrollment and placement data in fields related to computer and network security and a study of potential enrollment and placement for students enrolled in the proposed computer and network security program; and

(v) a plan to evaluate the success of the proposed computer and network security program, including post-graduation assessment of graduate school and job placement and retention rates as well as the relevance of the instructional program to graduate study and to the workplace.

(B) AWARDS.—(i) The Director shall ensure, to the extent practicable, that grants are awarded under this subsection in a wide range of geographic areas and categories of institutions of higher education, including minority serving institutions.

(ii) The Director shall award grants under this subsection for a period not to exceed 5 years.

(5) ASSESSMENT REQUIRED.—The Director shall evaluate the program established under this subsection no later than 6 years after the establishment of the program. At a minimum, the Director shall evaluate the extent to which the program

achieved its objectives of increasing the quality and quantity of students, including students from groups historically underrepresented in computer and network security related disciplines, pursuing undergraduate or master's degrees in computer and network security.

(6) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the National Science Foundation to carry out this subsection—

- (A) \$15,000,000 for fiscal year 2003;
- (B) \$20,000,000 for fiscal year 2004;
- (C) \$20,000,000 for fiscal year 2005;
- (D) \$20,000,000 for fiscal year 2006; and
- (E) \$20,000,000 for fiscal year 2007.

(b) SCIENTIFIC AND ADVANCED TECHNOLOGY ACT OF 1992.—

(1) GRANTS.—The Director shall provide grants under the Scientific and Advanced Technology Act of 1992 (42 U.S.C. 1862i) for the purposes of section 3(a) and (b) of that Act, except that the activities supported pursuant to this subsection shall be limited to improving education in fields related to computer and network security.

(2) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the National Science Foundation to carry out this subsection—

- (A) \$1,000,000 for fiscal year 2003;
- (B) \$1,250,000 for fiscal year 2004;
- (C) \$1,250,000 for fiscal year 2005;
- (D) \$1,250,000 for fiscal year 2006; and
- (E) \$1,250,000 for fiscal year 2007.

(c) GRADUATE TRAINEESHIPS IN COMPUTER AND NETWORK SECURITY RESEARCH.—

(1) IN GENERAL.—The Director shall establish a program to award grants to institutions of higher education to establish traineeship programs for graduate students who pursue computer and network security research leading to a doctorate degree by providing funding and other assistance, and by providing graduate students with research experience in government or industry related to the students' computer and network security studies.

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

(3) USE OF FUNDS.—An institution of higher education shall use grant funds for the purposes of—

(A) providing traineeships to students who are citizens, nationals, or lawfully admitted permanent resident aliens of the United States and are pursuing research in computer or network security leading to a doctorate degree;

(B) paying tuition and fees for students receiving traineeships under subparagraph (A);

(C) establishing scientific internship programs for students receiving traineeships under subparagraph (A) in computer and network security at for-profit institutions, nonprofit research institutions, or government laboratories; and

(D) other costs associated with the administration of the program.

(4) **TRAINEESHIP AMOUNT.**—Traineeships provided under paragraph (3)(A) shall be in the amount of \$25,000 per year, or the level of the National Science Foundation Graduate Research Fellowships, whichever is greater, for up to 3 years.

(5) **SELECTION PROCESS.**—An institution of higher education seeking funding under this subsection shall submit an application to the Director at such time, in such manner, and containing such information as the Director may require. The application shall include, at a minimum, a description of—

(A) the instructional program and research opportunities in computer and network security available to graduate students at the applicant's institution; and

(B) the internship program to be established, including the opportunities that will be made available to students for internships at for-profit institutions, nonprofit research institutions, and government laboratories.

(6) **REVIEW OF APPLICATIONS.**—In evaluating the applications submitted under paragraph (5), the Director shall consider—

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

(B) the quality of the applicant's existing research and education programs;

(C) the likelihood that the program will recruit increased numbers of students, including students from groups historically underrepresented in computer and network security related disciplines, to pursue and earn doctorate degrees in computer and network security;

(D) the nature and quality of the internship program established through collaborations with government laboratories, nonprofit research institutions, and for-profit institutions;

(E) the integration of internship opportunities into graduate students' research; and

(F) the relevance of the proposed program to current and future computer and network security needs.

(7) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to the National Science Foundation to carry out this subsection—

(A) \$10,000,000 for fiscal year 2003;

(B) \$20,000,000 for fiscal year 2004;

(C) \$20,000,000 for fiscal year 2005;

(D) \$20,000,000 for fiscal year 2006; and

(E) \$20,000,000 for fiscal year 2007.

(d) **GRADUATE RESEARCH FELLOWSHIPS PROGRAM SUPPORT.**—Computer and network security shall be included among the fields of specialization supported by the National Science Foundation's Graduate Research Fellowships program under section 10 of the National Science Foundation Act of 1950 (42 U.S.C. 1869).

(e) **CYBER SECURITY FACULTY DEVELOPMENT TRAINEESHIP PROGRAM.**—

(1) **IN GENERAL.**—The Director shall establish a program to award grants to institutions of higher education to establish

traineeship programs to enable graduate students to pursue academic careers in cyber security upon completion of doctoral degrees.

(2) MERIT REVIEW; COMPETITION.—Grants shall be awarded under this section on a merit-reviewed competitive basis.

(3) APPLICATION.—Each institution of higher education desiring to receive a grant under this subsection shall submit an application to the Director at such time, in such manner, and containing such information as the Director shall require.

(4) USE OF FUNDS.—Funds received by an institution of higher education under this paragraph shall—

(A) be made available to individuals on a merit-reviewed competitive basis and in accordance with the requirements established in paragraph (7);

(B) be in an amount that is sufficient to cover annual tuition and fees for doctoral study at an institution of higher education for the duration of the graduate traineeship, and shall include, in addition, an annual living stipend of \$25,000; and

(C) be provided to individuals for a duration of no more than 5 years, the specific duration of each graduate traineeship to be determined by the institution of higher education, on a case-by-case basis.

(5) REPAYMENT.—Each graduate traineeship shall—

(A) subject to paragraph (5)(B), be subject to full repayment upon completion of the doctoral degree according to a repayment schedule established and administered by the institution of higher education;

(B) be forgiven at the rate of 20 percent of the total amount of the graduate traineeship assistance received under this section for each academic year that a recipient is employed as a full-time faculty member at an institution of higher education for a period not to exceed 5 years; and

(C) be monitored by the institution of higher education receiving a grant under this subsection to ensure compliance with this subsection.

(6) EXCEPTIONS.—The Director may provide for the partial or total waiver or suspension of any service obligation or payment by an individual under this section whenever compliance by the individual is impossible or would involve extreme hardship to the individual, or if enforcement of such obligation with respect to the individual would be unconscionable.

(7) ELIGIBILITY.—To be eligible to receive a graduate traineeship under this section, an individual shall—

(A) be a citizen, national, or lawfully admitted permanent resident alien of the United States; and

(B) demonstrate a commitment to a career in higher education.

(8) CONSIDERATION.—In making selections for graduate traineeships under this paragraph, an institution receiving a grant under this subsection shall consider, to the extent possible, a diverse pool of applicants whose interests are of an interdisciplinary nature, encompassing the social scientific as well as the technical dimensions of cyber security.

(9) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the National Science Foundation to carry out this paragraph \$5,000,000 for each of fiscal years 2003 through 2007.

SEC. 6. [15 U.S.C. 7405] CONSULTATION.

In carrying out sections 4 and 5, the Director shall consult with other Federal agencies.

SEC. 7. FOSTERING RESEARCH AND EDUCATION IN COMPUTER AND NETWORK SECURITY.

[Section 7 provides for amendments to section 3(a) of the National Science Foundation Act of 1950 (42 U.S.C. 1862(a)), which is shown in its entirety elsewhere in this compilation.]

SEC. 8. NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY PROGRAMS.

(a) RESEARCH PROGRAM.—[Subsection (a) of this section provides for amendments to the National Institute of Standards and Technology Act (15 U.S.C. 271 et seq.), which is shown in its entirety elsewhere in this compilation.]

(b) AMENDMENT OF COMPUTER SYSTEM DEFINITION.—[Subsection (b) of this section provides for an amendment to section 20(d)(1)(B)(i) of National Institute of Standards and Technology Act (15 U.S.C. 278g–3(d)(1)(B)(i)), which is shown in its entirety elsewhere in this compilation.]

(c) CHECKLISTS FOR GOVERNMENT SYSTEMS.—

(1) IN GENERAL.—The Director of the National Institute of Standards and Technology shall develop, and revise as necessary, a checklist setting forth settings and option selections that minimize the security risks associated with each computer hardware or software system that is, or is likely to become, widely used within the Federal Government.

(2) PRIORITIES FOR DEVELOPMENT; EXCLUDED SYSTEMS.—The Director of the National Institute of Standards and Technology may establish priorities for the development of checklists under this paragraph on the basis of the security risks associated with the use of the system, the number of agencies that use a particular system, the usefulness of the checklist to Federal agencies that are users or potential users of the system, or such other factors as the Director determines to be appropriate. The Director of the National Institute of Standards and Technology may exclude from the application of paragraph (1) any computer hardware or software system for which the Director of the National Institute of Standards and Technology determines that the development of a checklist is inappropriate because of the infrequency of use of the system, the obsolescence of the system, or the inutility or impracticability of developing a checklist for the system.

(3) DISSEMINATION OF CHECKLISTS.—The Director of the National Institute of Standards and Technology shall make any checklist developed under this paragraph for any computer hardware or software system available to each Federal agency that is a user or potential user of the system.

(4) AGENCY USE REQUIREMENTS.—The development of a checklist under paragraph (1) for a computer hardware or software system does not—

(A) require any Federal agency to select the specific settings or options recommended by the checklist for the system;

(B) establish conditions or prerequisites for Federal agency procurement or deployment of any such system;

(C) represent an endorsement of any such system by the Director of the National Institute of Standards and Technology; nor

(D) preclude any Federal agency from procuring or deploying other computer hardware or software systems for which no such checklist has been developed.

(d) **FEDERAL AGENCY INFORMATION SECURITY PROGRAMS.**—

(1) **IN GENERAL.**—In developing the agencywide information security program required by section 3534(b) of title 44, United States Code, an agency that deploys a computer hardware or software system for which the Director of the National Institute of Standards and Technology has developed a checklist under subsection (c) of this section—

(A) shall include in that program an explanation of how the agency has considered such checklist in deploying that system; and

(B) may treat the explanation as if it were a portion of the agency's annual performance plan properly classified under criteria established by an Executive Order (within the meaning of section 1115(d) of title 31, United States Code).

(2) **LIMITATION.**—Paragraph (1) does not apply to any computer hardware or software system for which the National Institute of Standards and Technology does not have responsibility under section 20(a)(3) of the National Institute of Standards and Technology Act (15 U.S.C.278g-3(a)(3)).

SEC. 9. COMPUTER SECURITY REVIEW, PUBLIC MEETINGS, AND INFORMATION.

[Section 9 provides for an amendment to section 20 of the National Institute of Standards and Technology Act (15 U.S.C. 278g-3), which is shown in its entirety elsewhere in this compilation.]

SEC. 10. INTRAMURAL SECURITY RESEARCH.

[Section 10 provides for amendments to section 20 of the National Institute of Standards and Technology Act (15 U.S.C. 278g-3), which is shown in its entirety elsewhere in this compilation.]

SEC. 11. [15 U.S.C. 7407] AUTHORIZATION OF APPROPRIATIONS.

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

(1) for activities under section 22 of the National Institute of Standards and Technology Act, as added by section 8 of this Act—

(A) \$25,000,000 for fiscal year 2003;

(B) \$40,000,000 for fiscal year 2004;

(C) \$55,000,000 for fiscal year 2005;

(D) \$70,000,000 for fiscal year 2006;

(E) \$85,000,000 for fiscal year 2007; and

(2) for activities under section 20(f) of the National Institute of Standards and Technology Act, as added by section 10 of this Act—

- (A) \$6,000,000 for fiscal year 2003;
- (B) \$6,200,000 for fiscal year 2004;
- (C) \$6,400,000 for fiscal year 2005;
- (D) \$6,600,000 for fiscal year 2006; and
- (E) \$6,800,000 for fiscal year 2007.

SEC. 12. [15 U.S.C. 7408] NATIONAL ACADEMY OF SCIENCES STUDY ON COMPUTER AND NETWORK SECURITY IN CRITICAL INFRASTRUCTURES.

(a) **STUDY.**—Not later than 3 months after the date of the enactment of this Act, the Director of the National Institute of Standards and Technology shall enter into an arrangement with the National Research Council of the National Academy of Sciences to conduct a study of the vulnerabilities of the Nation's network infrastructure and make recommendations for appropriate improvements. The National Research Council shall—

(1) review existing studies and associated data on the architectural, hardware, and software vulnerabilities and interdependencies in United States critical infrastructure networks;

(2) identify and assess gaps in technical capability for robust critical infrastructure network security and make recommendations for research priorities and resource requirements; and

(3) review any and all other essential elements of computer and network security, including security of industrial process controls, to be determined in the conduct of the study.

(b) **REPORT.**—The Director of the National Institute of Standards and Technology shall transmit a report containing the results of the study and recommendations required by subsection (a) to the Senate Committee on Commerce, Science, and Transportation and the House of Representatives Committee on Science not later than 21 months after the date of enactment of this Act.

(c) **SECURITY.**—The Director of the National Institute of Standards and Technology shall ensure that no information that is classified is included in any publicly released version of the report required by this section.

(d) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to the Secretary of Commerce for the National Institute of Standards and Technology for the purposes of carrying out this section, \$700,000.

SEC. 13. [15 U.S.C. 7409] COORDINATION OF FEDERAL CYBER SECURITY RESEARCH AND DEVELOPMENT

The Director of the National Science Foundation and the Director of the National Institute of Standards and Technology shall coordinate the research programs authorized by this Act or pursuant to amendments made by this Act. The Director of the Office of Science and Technology Policy shall work with the Director of the National Science Foundation and the Director of the National Institute of Standards and Technology to ensure that programs authorized by this Act or pursuant to amendments made by this Act are taken into account in any government-wide cyber security research effort.

SEC. 14. OFFICE OF SPACE COMMERCIALIZATION.

[Section 14 provides for an amendment to Section 8(a) of the Technology Administration Act of 1998 (15 U.S.C. 1511e(a)).]

SEC. 15. TECHNICAL CORRECTION OF NATIONAL CONSTRUCTION SAFETY TEAM ACT.

[Section 15 provides for an amendment to section 2(c)(1)(d) of the National Construction Safety Team Act.]

SEC. 16. [15 U.S.C. 7410] GRANT ELIGIBILITY REQUIREMENTS AND COMPLIANCE WITH IMMIGRATION LAWS.

(a) **IMMIGRATION STATUS.**—No grant or fellowship may be awarded under this Act, directly or indirectly, to any individual who is in violation of the terms of his or her status as a non-immigrant under section 101(a)(15)(F), (M), or (J) of the Immigration and Nationality Act (8 U.S.C. 1101(a)(15)(F), (M), or (J)).

(b) **ALIENS FROM CERTAIN COUNTRIES.**—No grant or fellowship may be awarded under this Act, directly or indirectly, to any alien from a country that is a state sponsor of international terrorism, as defined under section 306(b) of the Enhanced Border Security and VISA Entry Reform Act (8 U.S.C. 1735(b)), unless the Secretary of State determines, in consultation with the Attorney General and the heads of other appropriate agencies, that such alien does not pose a threat to the safety or national security of the United States.

(c) **NON-COMPLYING INSTITUTIONS.**—No grant or fellowship may be awarded under this Act, directly or indirectly, to any institution of higher education or non-profit institution (or consortia thereof) that has—

(1) materially failed to comply with the recordkeeping and reporting requirements to receive nonimmigrant students or exchange visitor program participants under section 101(a)(15)(F), (M), or (J) of the Immigration and Nationality Act (8 U.S.C. 1101(a)(15)(F), (M), or (J)), or section 641 of the Illegal Immigration Reform and Responsibility Act of 1996 (8 U.S.C. 1372), as required by section 502 of the Enhanced Border Security and VISA Entry Reform Act (8 U.S.C. 1762); or

(2) been suspended or terminated pursuant to section 502(c) of the Enhanced Border Security and VISA Entry Reform Act (8 U.S.C. 1762(c)).

SEC. 17. [15 U.S.C. 7411] REPORT ON GRANT AND FELLOWSHIP PROGRAMS.

Within 24 months after the date of enactment of this Act, the Director, in consultation with the Assistant to the President for National Security Affairs, shall submit to Congress a report reviewing this Act to ensure that the programs and fellowships are being awarded under this Act to individuals and institutions of higher education who are in compliance with the Immigration and Nationality Act (8 U.S.C. 1101 et seq.) in order to protect our national security.

FEDERAL INFORMATION SYSTEMS STANDARDS

(Section 11331 of title 40, United States Code)

§ 11331. Responsibilities for Federal information systems standards

(a) DEFINITION.—In this section, the term “information security” has the meaning given that term in section 3532(b)(1) of title 44.

(b) REQUIREMENT TO PRESCRIBE STANDARDS.—

(1) IN GENERAL.—

(A) REQUIREMENT.—Except as provided under paragraph (2), the Director of the Office of Management and Budget shall, on the basis of proposed standards developed by the National Institute of Standards and Technology pursuant to paragraphs (2) and (3) of section 20(a) of the National Institute of Standards and Technology Act (15 U.S.C. 278g–3(a)) and in consultation with the Secretary of Homeland Security, promulgate information security standards pertaining to Federal information systems.

(B) REQUIRED STANDARDS.—Standards promulgated under subparagraph (A) shall include—

(i) standards that provide minimum information security requirements as determined under section 20(b) of the National Institute of Standards and Technology Act (15 U.S.C. 278g–3(b)); and

(ii) such standards that are otherwise necessary to improve the efficiency of operation or security of Federal information systems.

(C) REQUIRED STANDARDS BINDING.—Information security standards described under subparagraph (B) shall be compulsory and binding.

(2) STANDARDS AND GUIDELINES FOR NATIONAL SECURITY SYSTEMS.—Standards and guidelines for national security systems, as defined under section 3532(3) of title 44, shall be developed, promulgated, enforced, and overseen as otherwise authorized by law and as directed by the President.

(c) APPLICATION OF MORE STRINGENT STANDARDS.—The head of an agency may employ standards for the cost-effective information security for all operations and assets within or under the supervision of that agency that are more stringent than the standards promulgated by the Director under this section, if such standards—

(1) contain, at a minimum, the provisions of those applicable standards made compulsory and binding by the Director; and

(2) are otherwise consistent with policies and guidelines issued under section 3533 of title 44.

(d) REQUIREMENTS REGARDING DECISIONS BY DIRECTOR.—

(1) DEADLINE.—The decision regarding the promulgation of any standard by the Director under subsection (b) shall occur not later than 6 months after the submission of the proposed standard to the Director by the National Institute of Standards and Technology, as provided under section 20 of the National Institute of Standards and Technology Act (15 U.S.C. 278g-3).

(2) NOTICE AND COMMENT.—A decision by the Director to significantly modify, or not promulgate, a proposed standard submitted to the Director by the National Institute of Standards and Technology, as provided under section 20 of the National Institute of Standards and Technology Act (15 U.S.C. 278g-3), shall be made after the public is given an opportunity to comment on the Director's proposed decision.

HIGH-PERFORMANCE COMPUTING ACT OF 1991

AN ACT To provide for a coordinated Federal program to ensure continued United States leadership in high-performance computing.

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

SECTION 1. [15 U.S.C. 5501 note] SHORT TITLE.

This Act may be cited as the "High-Performance Computing Act of 1991".

SEC. 2. [15 U.S.C. 5501] FINDINGS.

The Congress finds the following:

(1) Advances in computer science and technology are vital to the Nation's prosperity, national and economic security, industrial production, engineering, and scientific advancement.

(2) The United States currently leads the world in the development and use of high-performance computing for national security, industrial productivity, science, and engineering, but that lead is being challenged by foreign competitors.

(3) Further research and development, expanded educational programs, improved computer research networks, and more effective technology transfer from government to industry are necessary for the United States to reap fully the benefits of high-performance computing.

(4) A high-capacity, flexible, high-speed national research and education computer network is needed to provide researchers and educators with access to computational and information resources, act as a test bed for further research and development for high-capacity and high-speed computer networks, and provide researchers the necessary vehicle for continued network technology improvement through research.

(5) Several Federal agencies have ongoing high-performance computing programs, but improved long-term interagency coordination, cooperation, and planning would enhance the effectiveness of these programs.

(6) A 1991 report entitled "Grand Challenges: High-Performance Computing and Communications" by the Office of Science and Technology Policy, outlining a research and development strategy for high-performance computing, provides a framework for a multiagency high-performance computing program. Such a program would provide American researchers and educators with the computer and information resources they need, and demonstrate how advanced computers, high-capacity and high-speed networks, and electronic data bases can

improve the national information infrastructure for use by all Americans.

(7) Additional research must be undertaken to lay the foundation for the development of new applications that can result in economic growth, improved health care, and improved educational opportunities.

(8) Research in new networking technologies holds the promise of easing the economic burdens of information access disproportionately borne by rural users of the Internet.

(9) Information security is an important part of computing, information, and communications systems and applications, and research into security architectures is a critical aspect of computing, information, and communications research programs.

SEC. 3. [15 U.S.C. 5502] PURPOSES.

The purposes of this Act are to help ensure the continued leadership of the United States in high-performance computing and its applications by—

(1) expanding Federal support for research, development, and application of high-performance computing in order to—

(A) expand the number of researchers, educators, and students with training in high-performance computing and access to high-performance computing resources;

(B) promote the further development of an information infrastructure of data bases, services, access mechanisms, and research facilities available for use through the Internet;

(C) stimulate research on software technology;

(D) promote the more rapid development and wider distribution of computing software tools and applications software;

(E) accelerate the development of computing systems and subsystems;

(F) provide for the application of high-performance computing to Grand Challenges;

(G) invest in basic research and education, and promote the inclusion of high-performance computing into educational institutions at all levels; and

(H) promote greater collaboration among government, Federal laboratories, industry, high-performance computing centers, and universities;

(2) improving the interagency planning and coordination of Federal research and development on high-performance computing and maximizing the effectiveness of the Federal Government's high-performance computing network research and development programs;

(3) promoting the more rapid development and wider distribution of networking management and development tools; and

(4) promoting the rapid adoption of open network standards.

SEC. 4. [15 U.S.C. 5503] DEFINITIONS.

As used in this Act, the term—

(1) "Director" means the Director of the Office of Science and Technology Policy;

(2) "Grand Challenge" means a fundamental problem in science or engineering, with broad economic and scientific impact, whose solution will require the application of high-performance computing resources;

(3) "high-performance computing" means advanced computing, communications, and information technologies, including scientific workstations, supercomputer systems (including vector supercomputers and large scale parallel systems), high-capacity and high-speed networks, special purpose and experimental systems, and applications and systems software;

(4) "Internet" means the international computer network of both Federal and non-Federal interoperable packet switched data networks;

(5) "Network" means a computer network referred to as the National Research and Education Network established under section 102; and

(6) "Program" means the National High-Performance Computing Program described in section 101.

TITLE I—HIGH-PERFORMANCE COMPUTING AND THE NATIONAL RESEARCH AND EDUCATION NETWORK

SEC. 101. [15 U.S.C. 5511] NATIONAL HIGH-PERFORMANCE COMPUTING PROGRAM.

(a) NATIONAL HIGH-PERFORMANCE COMPUTING PROGRAM.—(1) The President shall implement a National High-Performance Computing Program, which shall—

(A) establish the goals and priorities for Federal high-performance computing research, development, networking, and other activities; and

(B) provide for interagency coordination of Federal high-performance computing research, development, networking, and other activities undertaken pursuant to the Program.

(2) The Program shall—

(A) provide for the development of technologies to advance the capacity and capabilities of the Internet;

(B) provide for high performance testbed networks to enable the research, development, and demonstration of advanced networking technologies and to develop and demonstrate advanced applications made possible by the existence of such testbed networks;

(C) promote connectivity among computer networks of Federal agencies and departments;

(D) provide for efforts to increase software availability, productivity, capability, portability, and reliability;

(E) provide for improved dissemination of Federal agency data and electronic information;

(F) provide for acceleration of the development of high-performance computing systems, subsystems, and associated software;

(G) provide for the technical support and research and development of high-performance computing software and hardware needed to address Grand Challenges;

(H) provide for educating and training additional undergraduate and graduate students in software engineering, computer science, library and information science, and computational science; and

(I) provide—

(i) for the security requirements, policies, and standards necessary to protect Federal research computer networks and information resources accessible through Federal research computer networks, including research required to establish security standards for high-performance computing systems and networks; and

(ii) that agencies and departments identified in the annual report submitted under paragraph (3)(A) shall define and implement a security plan consistent with the Program and with applicable law.

(3) The Director shall—

(A) submit to the Congress an annual report, along with the President's annual budget request, describing the implementation of the Program;

(B) provide for interagency coordination of the Program; and

(C) consult with academic, State, industry, and other appropriate groups conducting research on and using high-performance computing.

(4) The annual report submitted under paragraph (3)(A) shall—

(A) include a detailed description of the goals and priorities established by the President for the Program;

(B) set forth the relevant programs and activities, for the fiscal year with respect to which the budget submission applies, of each Federal agency and department, including—

(i) the Department of Agriculture;

(ii) the Department of Commerce;

(iii) the Department of Defense;

(iv) the Department of Education;

(v) the Department of Energy;

(vi) the Department of Health and Human Services;

(vii) the Department of the Interior;

(viii) the Environmental Protection Agency;

(ix) the National Aeronautics and Space Administration;

(x) the National Science Foundation; and

(xi) such other agencies and departments as the President or the Director considers appropriate;

(C) describe the levels of Federal funding for the fiscal year during which such report is submitted, and the levels proposed for the fiscal year with respect to which the budget submission applies, for specific activities, including education, research, hardware and software development, and support for the establishment of the Network;

(D) describe the levels of Federal funding for each agency and department participating in the Program for the fiscal year during which such report is submitted, and the levels proposed for the fiscal year with respect to which the budget submission applies;

(E) include the report of the Secretary of Energy required by section 203(d); and

(F) include an analysis of the progress made toward achieving the goals and priorities established for the Program.

(b) **ADVISORY COMMITTEE.**—The President shall establish an advisory committee on high-performance computing consisting of non-Federal members, including representatives of the research, education, and library communities, network providers, and industry, who are specially qualified to provide the Director with advice and information on high-performance computing. The recommendations of the advisory committee shall be considered in reviewing and revising the Program. The advisory committee shall provide the Director with an independent assessment of—

(1) progress made in implementing the Program;

(2) the need to revise the Program;

(3) the balance between the components of the Program;

(4) whether the research and development undertaken pursuant to the Program is helping to maintain United States leadership in computing technology; and

(5) other issues identified by the Director.

(c) **OFFICE OF MANAGEMENT AND BUDGET.**—(1) Each Federal agency and department participating in the Program shall, as part of its annual request for appropriations to the Office of Management and Budget, submit a report to the Office of Management and Budget which—

(A) identifies each element of its high-performance computing activities which contributes directly to the Program or benefits from the Program; and

(B) states the portion of its request for appropriations that is allocated to each such element.

(2) The Office of Management and Budget shall review each such report in light of the goals, priorities, and agency and departmental responsibilities set forth in the annual report submitted under subsection (a)(3)(A), and shall include, in the President's annual budget estimate, a statement of the portion of each appropriate agency's or department's annual budget estimate relating to its activities undertaken pursuant to the Program.

SEC. 102. [15 U.S.C. 5512] NATIONAL RESEARCH AND EDUCATION NETWORK.

(a) **ESTABLISHMENT.**—As part of the Program, the National Science Foundation, the Department of Defense, the Department of Energy, the Department of Commerce, the National Aeronautics and Space Administration, and other agencies participating in the Program shall support the establishment of the National Research and Education Network, portions of which shall, to the extent technically feasible, be capable of transmitting data at one gigabit per second or greater by 1996. The Network shall provide for the linkage of research institutions and educational institutions, government, and industry in every State.

(b) **ACCESS.**—Federal agencies and departments shall work with private network service providers, State and local agencies, libraries, educational institutions and organizations, and others, as appropriate, in order to ensure that the researchers, educators, and students have access, as appropriate, to the Network. The Network is to provide users with appropriate access to high-performance

computing systems, electronic information resources, other research facilities, and libraries. The Network shall provide access, to the extent practicable, to electronic information resources maintained by libraries, research facilities, publishers, and affiliated organizations.

(c) NETWORK CHARACTERISTICS.—The Network shall—

(1) be developed and deployed with the computer, telecommunications, and information industries;

(2) be designed, developed, and operated in collaboration with potential users in government, industry, and research institutions and educational institutions;

(3) be designed, developed, and operated in a manner which fosters and maintains competition and private sector investment in high-speed data networking within the telecommunications industry;

(4) be designed, developed, and operated in a manner which promotes research and development leading to development of commercial data communications and telecommunications standards, whose development will encourage the establishment of privately operated high-speed commercial networks;

(5) be designed and operated so as to ensure the continued application of laws that provide network and information resources security measures, including those that protect copyright and other intellectual property rights, and those that control access to data bases and protect national security;

(6) have accounting mechanisms which allow users or groups of users to be charged for their usage of copyrighted materials available over the Network and, where appropriate and technically feasible, for their usage of the Network;

(7) ensure the interoperability of Federal and non-Federal computer networks, to the extent appropriate, in a way that allows autonomy for each component network;

(8) be developed by purchasing standard commercial transmission and network services from vendors whenever feasible, and by contracting for customized services when not feasible, in order to minimize Federal investment in network hardware;

(9) support research and development of networking software and hardware; and

(10) serve as a test bed for further research and development of high-capacity and high-speed computing networks and demonstrate how advanced computers, high-capacity and high-speed computing networks, and data bases can improve the national information infrastructure.

(d) DEFENSE ADVANCED RESEARCH PROJECTS AGENCY RESPONSIBILITY.—As part of the Program, the Department of Defense, through the Defense Advanced Research Projects Agency, shall support research and development of advanced fiber optics technology, switches, and protocols needed to develop the Network.

(e) INFORMATION SERVICES.—The Director shall assist the President in coordinating the activities of appropriate agencies and departments to promote the development of information services that could be provided over the Network. These services may include the provision of directories of the users and services on computer networks, data bases of unclassified Federal scientific data,

training of users of data bases and computer networks, access to commercial information services for users of the Network, and technology to support computer-based collaboration that allows researchers and educators around the Nation to share information and instrumentation.

(f) **USE OF GRANT FUNDS.**—All Federal agencies and departments are authorized to allow recipients of Federal research grants to use grant moneys to pay for computer networking expenses.

(g) **REPORT TO CONGRESS.**—Within one year after the date of enactment of this Act, the Director shall report to the Congress on—

(1) effective mechanisms for providing operating funds for the maintenance and use of the Network, including user fees, industry support, and continued Federal investment;

(2) the future operation and evolution of the Network;

(3) how commercial information service providers could be charged for access to the Network, and how Network users could be charged for such commercial information services;

(4) the technological feasibility of allowing commercial information service providers to use the Network and other federally funded research networks;

(5) how to protect the copyrights of material distributed over the Network; and

(6) appropriate policies to ensure the security of resources available on the Network and to protect the privacy of users of networks.

SEC. 103. [15 U.S.C. 5513] NEXT GENERATION INTERNET.

(a) **ESTABLISHMENT.**—The National Science Foundation, the Department of Energy, the National Institutes of Health, the National Aeronautics and Space Administration, and the National Institute of Standards and Technology may support the Next Generation Internet program. The objectives of the Next Generation Internet program shall be to—

(1) support research, development, and demonstration of advanced networking technologies to increase the capabilities and improve the performance of the Internet;

(2) develop an advanced testbed network connecting a significant number of research sites, including universities, Federal research institutions, and other appropriate research partner institutions, to support networking research and to demonstrate new networking technologies; and

(3) develop and demonstrate advanced Internet applications that meet important national goals or agency mission needs, and that are supported by the activities described in paragraphs (1) and (2).

(b) **DUTIES OF ADVISORY COMMITTEE.**—The President's Information Technology Advisory Committee (established pursuant to section 101(b) by Executive Order No. 13035 of February 11, 1997 (62 F.R. 7131), as amended by Executive Order No. 13092 of July 24, 1998), in addition to its functions under section 101(b), shall—

(1) assess the extent to which the Next Generation Internet program—

(A) carries out the purposes of this Act; and

(B) addresses concerns relating to, among other matters—

(i) geographic penalties (as defined in section 7(1)¹ of the Next Generation Internet Research Act of 1998);

(ii) the adequacy of access to the Internet by Historically Black Colleges and Universities, Hispanic Serving Institutions, and small colleges and universities (whose enrollment is less than 5,000) and the degree of participation of those institutions in activities described in subsection (a); and

(iii) technology transfer to and from the private sector;

(2) review the extent to which the role of each Federal agency and department involved in implementing the Next Generation Internet program is clear and complementary to, and non-duplicative of, the roles of other participating agencies and departments;

(3) assess the extent to which Federal support of fundamental research in computing is sufficient to maintain the Nation's critical leadership in this field; and

(4) make recommendations relating to its findings under paragraphs (1), (2), and (3).

(c) REPORTS.—The Advisory Committee shall review implementation of the Next Generation Internet program and shall report, not less frequently than annually, to the President, the Committee on Commerce, Science, and Transportation, the Committee on Appropriations, and the Committee on Armed Services of the Senate, and the Committee on Science, the Committee on Appropriations, and the Committee on Armed Services of the House of Representatives on its findings and recommendations for the preceding fiscal year. The first such report shall be submitted 6 months after the date of the enactment of the Next Generation Internet Research Act of 1998 and the last report shall be submitted by September 30, 2000.

(d) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated for the purposes of this section—

(1) for the Department of Energy, \$22,000,000 for fiscal year 1999 and \$25,000,000 for fiscal year 2000;

(2) for the National Science Foundation, \$25,000,000 for fiscal year 1999 and \$25,000,000 for fiscal year 2000, as authorized in the National Science Foundation Authorization Act of 1998;

(3) for the National Institutes of Health, \$5,000,000 for fiscal year 1999 and \$7,500,000 for fiscal year 2000;

(4) for the National Aeronautics and Space Administration, \$10,000,000 for fiscal year 1999 and \$10,000,000 for fiscal year 2000; and

(5) for the National Institute of Standards and Technology, \$5,000,000 for fiscal year 1999 and \$7,500,000 for fiscal year 2000.

Such funds may not be used for routine upgrades to existing federally funded communication networks.

¹ So in original. Probably should be “7(a)(1)”.

TITLE II—AGENCY ACTIVITIES**SEC. 201. [15 U.S.C. 5521] NATIONAL SCIENCE FOUNDATION ACTIVITIES.**

(a) **GENERAL RESPONSIBILITIES.**—As part of the Program described in title I—

(1) the National Science Foundation shall provide computing and networking infrastructure support for all science and engineering disciplines, and support basic research and human resource development in all aspects of high-performance computing and advanced high-speed computer networking;

(2) to the extent that colleges, universities, and libraries cannot connect to the Network with the assistance of the private sector, the National Science Foundation shall have primary responsibility for assisting colleges, universities, and libraries to connect to the Network;

(3) the National Science Foundation shall serve as the primary source of information on access to and use of the Network; and

(4) the National Science Foundation shall upgrade the National Science Foundation funded network, assist regional networks to upgrade their capabilities, and provide other Federal departments and agencies the opportunity to connect to the National Science Foundation funded network.

(b) **AUTHORIZATION OF APPROPRIATIONS.**—From sums otherwise authorized to be appropriated, there are authorized to be appropriated to the National Science Foundation for the purposes of the Program \$213,000,000 for fiscal year 1992; \$262,000,000 for fiscal year 1993; \$305,000,000 for fiscal year 1994; \$354,000,000 for fiscal year 1995; and \$413,000,000 for fiscal year 1996.

SEC. 202. [15 U.S.C. 5522] NATIONAL AERONAUTICS AND SPACE ADMINISTRATION ACTIVITIES.

(a) **GENERAL RESPONSIBILITIES.**—As part of the Program described in title I, the National Aeronautics and Space Administration shall conduct basic and applied research in high-performance computing, particularly in the field of computational science, with emphasis on aerospace sciences, earth and space sciences, and remote exploration and experimentation.

(b) **AUTHORIZATION OF APPROPRIATIONS.**—From sums otherwise authorized to be appropriated, there are authorized to be appropriated to the National Aeronautics and Space Administration for the purposes of the Program \$72,000,000 for fiscal year 1992; \$107,000,000 for fiscal year 1993; \$134,000,000 for fiscal year 1994; \$151,000,000 for fiscal year 1995; and \$145,000,000 for fiscal year 1996.

SEC. 203. [15 U.S.C. 5523] DEPARTMENT OF ENERGY ACTIVITIES.

(a) **GENERAL RESPONSIBILITIES.**—As part of the Program described in title I, the Secretary of Energy shall—

(1) perform research and development on, and systems evaluations of, high-performance computing and communications systems;

(2) conduct computational research with emphasis on energy applications;

(3) support basic research, education, and human resources in computational science; and

(4) provide for networking infrastructure support for energy-related mission activities.

(b) COLLABORATIVE CONSORTIA.—In accordance with the Program, the Secretary of Energy shall establish High-Performance Computing Research and Development Collaborative Consortia by soliciting and selecting proposals. Each Collaborative Consortium shall—

(1) conduct research directed at scientific and technical problems whose solutions require the application of high-performance computing and communications resources;

(2) promote the testing and uses of new types of high-performance computing and related software and equipment;

(3) serve as a vehicle for participating vendors of high-performance computing systems to test new ideas and technology in a sophisticated computing environment; and

(4) be led by a Department of Energy national laboratory, and include participants from Federal agencies and departments, researchers, private industry, educational institutions, and others as the Secretary of Energy may deem appropriate.

(c) TECHNOLOGY TRANSFER.—The results of research and development carried out under this section shall be transferred to the private sector and others in accordance with applicable law.

(d) REPORTS.—Not later than 1 year after the date of enactment of this subsection, and thereafter as part of the report required under section 101(a)(3)(A), the Secretary of Energy shall report on activities taken to carry out this Act.

(e) AUTHORIZATION OF APPROPRIATIONS.—(1) There are authorized to be appropriated to the Secretary of Energy for the purposes of the Program \$93,000,000 for fiscal year 1992; \$110,000,000 for fiscal year 1993; \$138,000,000 for fiscal year 1994; \$157,000,000 for fiscal year 1995; and \$169,000,000 for fiscal year 1996.

(2) There are authorized to be appropriated to the Secretary of Energy for fiscal years 1992, 1993, 1994, 1995, and 1996, such funds as may be necessary to carry out the activities that are not part of the Program but are authorized by this section.

SEC. 204. [15 U.S.C. 5524] DEPARTMENT OF COMMERCE ACTIVITIES.

(a) GENERAL RESPONSIBILITIES.—As part of the Program described in title I—

(1) the National Institute of Standards and Technology shall—

(A) conduct basic and applied measurement research needed to support various high-performance computing systems and networks;

(B) develop and propose standards and guidelines, and develop measurement techniques and test methods, for the interoperability of high-performance computing systems in networks and for common user interfaces to systems; and

(C) be responsible for developing benchmark tests and standards for high-performance computing systems and software; and

(2) the National Oceanic and Atmospheric Administration shall conduct basic and applied research in weather prediction

and ocean sciences, particularly in development of new forecast models, in computational fluid dynamics, and in the incorporation of evolving computer architectures and networks into the systems that carry out agency missions.

(b) HIGH-PERFORMANCE COMPUTING AND NETWORK SECURITY.—Pursuant to the Computer Security Act of 1987 (Public Law 100-235; 101 Stat. 1724), the National Institute of Standards and Technology shall be responsible for developing and proposing standards and guidelines needed to assure the cost-effective security and privacy of sensitive information in Federal computer systems.

(c) STUDY OF IMPACT OF FEDERAL PROCUREMENT REGULATIONS.—(1) The Secretary of Commerce shall conduct a study to—

(A) evaluate the impact of Federal procurement regulations that require that contractors providing software to the Federal Government share the rights to proprietary software development tools that the contractors use to develop the software; and

(B) determine whether such regulations discourage development of improved software development tools and techniques.

(2) The Secretary of Commerce shall, within one year after the date of enactment of this Act, report to the Congress regarding the results of the study conducted under paragraph (1).

(d) AUTHORIZATION OF APPROPRIATIONS.—From sums otherwise authorized to be appropriated, there are authorized to be appropriated—

(1) to the National Institute of Standards and Technology for the purposes of the Program \$3,000,000 for fiscal year 1992; \$4,000,000 for fiscal year 1993; \$5,000,000 for fiscal year 1994; \$6,000,000 for fiscal year 1995; and \$7,000,000 for fiscal year 1996; and

(2) to the National Oceanic and Atmospheric Administration for the purposes of the Program \$2,500,000 for fiscal year 1992; \$3,000,000 for fiscal year 1993; \$3,500,000 for fiscal year 1994; \$4,000,000 for fiscal year 1995; and \$4,500,000 for fiscal year 1996.

SEC. 205. [15 U.S.C. 5525] ENVIRONMENTAL PROTECTION AGENCY ACTIVITIES.

(a) GENERAL RESPONSIBILITIES.—As part of the Program described in title I, the Environmental Protection Agency shall conduct basic and applied research directed toward the advancement and dissemination of computational techniques and software tools which form the core of ecosystem, atmospheric chemistry, and atmospheric dynamics models.

(b) AUTHORIZATION OF APPROPRIATIONS.—From sums otherwise authorized to be appropriated, there are authorized to be appropriated to the Environmental Protection Agency for the purposes of the Program \$5,000,000 for fiscal year 1992; \$5,500,000 for fiscal year 1993; \$6,000,000 for fiscal year 1994; \$6,500,000 for fiscal year 1995; and \$7,000,000 for fiscal year 1996.

SEC. 206. [15 U.S.C. 5526] ROLE OF THE DEPARTMENT OF EDUCATION.

(a) GENERAL RESPONSIBILITIES.—As part of the Program described in title I, the Secretary of Education is authorized to con-

duct basic and applied research in computational research with an emphasis on the coordination of activities with libraries, school facilities, and education research groups with respect to the advancement and dissemination of computational science and the development, evaluation and application of software capabilities.

(b) **AUTHORIZATION OF APPROPRIATIONS.**—From sums otherwise authorized to be appropriated, there are authorized to be appropriated to the Department of Education for the purposes of this section \$1,500,000 for fiscal year 1992; \$1,700,000 for fiscal year 1993; \$1,900,000 for fiscal year 1994; \$2,100,000 for fiscal year 1995; and \$2,300,000 for fiscal year 1996.

SEC. 207. [15 U.S.C. 5527] MISCELLANEOUS PROVISIONS.

(a) **NONAPPLICABILITY.**—Except to the extent the appropriate Federal agency or department head determines, the provisions of this Act shall not apply to—

(1) programs or activities regarding computer systems that process classified information; or

(2) computer systems the function, operation, or use of which are those delineated in paragraphs (1) through (5) of section 2315(a) of title 10, United States Code.

(b) **ACQUISITION OF PROTOTYPE AND EARLY PRODUCTION MODELS.**—In accordance with Federal contracting law, Federal agencies and departments participating in the Program may acquire prototype or early production models of new high-performance computing systems and subsystems to stimulate hardware and software development. Items of computing equipment acquired under this subsection shall be considered research computers for purposes of applicable acquisition regulations.

SEC. 208. [15 U.S.C. 5528] FOSTERING UNITED STATES COMPETITIVENESS IN HIGH-PERFORMANCE COMPUTING AND RELATED ACTIVITIES.

(a) **FINDINGS.**—The Congress finds the following:

(1) High-performance computing and associated technologies are critical to the United States economy.

(2) While the United States has led the development of high-performance computing, United States industry is facing increasing global competition.

(3) Despite existing international agreements on fair competition and nondiscrimination in government procurements, there is increasing concern that such agreements are not being honored, that more aggressive enforcement of such agreements is needed, and that additional steps may be required to ensure fair global competition, particularly in high-technology fields such as high-performance computing and associated technologies.

(4) It is appropriate for Federal agencies and departments to use the funds authorized for the Program in a manner which most effectively fosters the maintenance and development of United States leadership in high-performance computers and associated technologies in and for the benefit of the United States.

(5) It is appropriate for Federal agencies and departments to use the funds authorized for the Program in a manner, consistent with the Trade Agreements Act of 1979 (19 U.S.C. 2501

et seq.), which most effectively fosters reciprocal competitive procurement treatment by foreign governments for United States high-performance computing and associated technology products and suppliers.

(b) ANNUAL REPORT.—

(1) REPORT.—The Director shall submit an annual report to Congress that identifies—

(A) any grant, contract, cooperative agreement, or cooperative research and development agreement (as defined under section 12(d)(1) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a(d)(1)) made or entered into by any Federal agency or department for research and development under the Program with—

(i) any company other than a company that is either incorporated or located in the United States, and that has majority ownership by individuals who are citizens of the United States; or

(ii) any educational institution or nonprofit institution located outside the United States; and

(B) any procurement exceeding \$1,000,000 by any Federal agency or department under the Program for—

(i) unmanufactured articles, materials, or supplies mined or produced outside the United States; or

(ii) manufactured articles, materials, or supplies other than those manufactured in the United States substantially all from articles, materials, or supplies mined, produced, or manufactured in the United States,

under the meaning of title III of the Act of March 3, 1933 (41 U.S.C. 10a–10d; popularly known as the Buy American Act) as amended by the Buy American Act of 1988.

(2) CONSOLIDATION OF REPORTS.—The report required by this subsection may be included with the report required by section 101(a)(3)(A).

(c) REVIEW OF SUPERCOMPUTER AGREEMENT.—

(1) REPORT.—The Under Secretary for Technology Administration of the Department of Commerce (in this subsection referred to as the “Under Secretary”) shall conduct a comprehensive study of the revised “Procedures to Introduce Supercomputers” and the accompanying exchange of letters between the United States and Japan dated June 15, 1990 (commonly referred to as the “Supercomputer Agreement”) to determine whether the goals and objectives of such Agreement have been met and to analyze the effects of such Agreement on United States and Japanese supercomputer manufacturers. Within 180 days after the date of enactment of this Act, the Under Secretary shall submit a report to Congress containing the results of such study.

(2) CONSULTATION.—In conducting the comprehensive study under this subsection, the Under Secretary shall consult with appropriate¹ Federal agencies and departments and with

¹ So in law. Probably should be “appropriate”.

United States manufacturers of supercomputers and other appropriate private sector entities.

(d) APPLICATION OF BUY AMERICAN ACT.—This Act does not affect the applicability of title III of the Act of March 3, 1933 (41 U.S.C. 10a–10d; popularly known as the Buy American Act), as amended by the Buy American Act of 1988, to procurements by Federal agencies and departments undertaken as a part of the Program.

HOMELAND SECURITY ACT OF 2002

(Title III)

AN ACT To establish the Department of Homeland Security, and for other purposes.

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

SECTION 1. [6 U.S.C. 101 note] SHORT TITLE; TABLE OF CONTENTS.

(a) **SHORT TITLE.**—This Act may be cited as the “Homeland Security Act of 2002”.

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TITLE III—SCIENCE AND TECHNOLOGY IN SUPPORT OF HOMELAND SECURITY

SEC. 301. [6 U.S.C. 181] UNDER SECRETARY FOR SCIENCE AND TECHNOLOGY.

There shall be in the Department a Directorate of Science and Technology headed by an Under Secretary for Science and Technology.

SEC. 302. [6 U.S.C. 182] RESPONSIBILITIES AND AUTHORITIES OF THE UNDER SECRETARY FOR SCIENCE AND TECHNOLOGY.

The Secretary, acting through the Under Secretary for Science and Technology, shall have the responsibility for—

(1) advising the Secretary regarding research and development efforts and priorities in support of the Department’s missions;

(2) developing, in consultation with other appropriate executive agencies, a national policy and strategic plan for, identifying priorities, goals, objectives and policies for, and coordinating the Federal Government’s civilian efforts to identify and develop countermeasures to chemical, biological, radiological, nuclear, and other emerging terrorist threats, including the development of comprehensive, research-based definable goals for such efforts and development of annual measurable objectives and specific targets to accomplish and evaluate the goals for such efforts;

(3) supporting the Under Secretary for Information Analysis and Infrastructure Protection, by assessing and testing homeland security vulnerabilities and possible threats;

(4) conducting basic and applied research, development, demonstration, testing, and evaluation activities that are relevant to any or all elements of the Department, through both

intramural and extramural programs, except that such responsibility does not extend to human health-related research and development activities;

(5) establishing priorities for, directing, funding, and conducting national research, development, test and evaluation, and procurement of technology and systems for—

(A) preventing the importation of chemical, biological, radiological, nuclear, and related weapons and material; and

(B) detecting, preventing, protecting against, and responding to terrorist attacks;

(6) establishing a system for transferring homeland security developments or technologies to Federal, State, local government, and private sector entities;

(7) entering into work agreements, joint sponsorships, contracts, or any other agreements with the Department of Energy regarding the use of the national laboratories or sites and support of the science and technology base at those facilities;

(8) collaborating with the Secretary of Agriculture and the Attorney General as provided in section 212 of the Agricultural Bioterrorism Protection Act of 2002 (7 U.S.C. 8401), as amended by section 1709(b);

(9) collaborating with the Secretary of Health and Human Services and the Attorney General in determining any new biological agents and toxins that shall be listed as “select agents” in Appendix A of part 72 of title 42, Code of Federal Regulations, pursuant to section 351A of the Public Health Service Act (42 U.S.C. 262a);

(10) supporting United States leadership in science and technology;

(11) establishing and administering the primary research and development activities of the Department, including the long-term research and development needs and capabilities for all elements of the Department;

(12) coordinating and integrating all research, development, demonstration, testing, and evaluation activities of the Department;

(13) coordinating with other appropriate executive agencies in developing and carrying out the science and technology agenda of the Department to reduce duplication and identify unmet needs; and

(14) developing and overseeing the administration of guidelines for merit review of research and development projects throughout the Department, and for the dissemination of research conducted or sponsored by the Department.

SEC. 303. [6 U.S.C. 183] FUNCTIONS TRANSFERRED.

In accordance with title XV, there shall be transferred to the Secretary the functions, personnel, assets, and liabilities of the following entities:

(1) The following programs and activities of the Department of Energy, including the functions of the Secretary of Energy relating thereto (but not including programs and activities relating to the strategic nuclear defense posture of the United States):

(A) The chemical and biological national security and supporting programs and activities of the nonproliferation and verification research and development program.

(B) The nuclear smuggling programs and activities within the proliferation detection program of the nonproliferation and verification research and development program. The programs and activities described in this subparagraph may be designated by the President either for transfer to the Department or for joint operation by the Secretary and the Secretary of Energy.

(C) The nuclear assessment program and activities of the assessment, detection, and cooperation program of the international materials protection and cooperation program.

(D) Such life sciences activities of the biological and environmental research program related to microbial pathogens as may be designated by the President for transfer to the Department.

(E) The Environmental Measurements Laboratory.

(F) The advanced scientific computing research program and activities at Lawrence Livermore National Laboratory.

(2) The National Bio-Weapons Defense Analysis Center of the Department of Defense, including the functions of the Secretary of Defense related thereto.

SEC. 304. [6 U.S.C. 184] CONDUCT OF CERTAIN PUBLIC HEALTH-RELATED ACTIVITIES.

(a) IN GENERAL.—With respect to civilian human health-related research and development activities relating to countermeasures for chemical, biological, radiological, and nuclear and other emerging terrorist threats carried out by the Department of Health and Human Services (including the Public Health Service), the Secretary of Health and Human Services shall set priorities, goals, objectives, and policies and develop a coordinated strategy for such activities in collaboration with the Secretary of Homeland Security to ensure consistency with the national policy and strategic plan developed pursuant to section 302(2).

(b) EVALUATION OF PROGRESS.—In carrying out subsection (a), the Secretary of Health and Human Services shall collaborate with the Secretary in developing specific benchmarks and outcome measurements for evaluating progress toward achieving the priorities and goals described in such subsection.

(c) ADMINISTRATION OF COUNTERMEASURES AGAINST SMALLPOX.—[Subsection (c) of this section provides for an amendment to section 224 of the Public Health Service Act (42 U.S.C. 233).]

SEC. 305. [6 U.S.C. 185] FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS.

The Secretary, acting through the Under Secretary for Science and Technology, shall have the authority to establish or contract with 1 or more federally funded research and development centers to provide independent analysis of homeland security issues, or to carry out other responsibilities under this Act, including coordinating and integrating both the extramural and intramural programs described in section 308.

SEC. 306. [6 U.S.C. 186] MISCELLANEOUS PROVISIONS.

(a) **CLASSIFICATION.**—To the greatest extent practicable, research conducted or supported by the Department shall be unclassified.

(b) **CONSTRUCTION.**—Nothing in this title shall be construed to preclude any Under Secretary of the Department from carrying out research, development, demonstration, or deployment activities, as long as such activities are coordinated through the Under Secretary for Science and Technology.

(c) **REGULATIONS.**—The Secretary, acting through the Under Secretary for Science and Technology, may issue necessary regulations with respect to research, development, demonstration, testing, and evaluation activities of the Department, including the conducting, funding, and reviewing of such activities.

(d) **NOTIFICATION OF PRESIDENTIAL LIFE SCIENCES DESIGNATIONS.**—Not later than 60 days before effecting any transfer of Department of Energy life sciences activities pursuant to section 303(1)(D) of this Act, the President shall notify the appropriate congressional committees of the proposed transfer and shall include the reasons for the transfer and a description of the effect of the transfer on the activities of the Department of Energy.

SEC. 307. [6 U.S.C. 187] HOMELAND SECURITY ADVANCED RESEARCH PROJECTS AGENCY.

(a) **DEFINITIONS.**—In this section:

(1) **FUND.**—The term “Fund” means the Acceleration Fund for Research and Development of Homeland Security Technologies established in subsection (c).

(2) **HOMELAND SECURITY RESEARCH.**—The term “homeland security research” means research relevant to the detection of, prevention of, protection against, response to, attribution of, and recovery from homeland security threats, particularly acts of terrorism.

(3) **HSARPA.**—The term “HSARPA” means the Homeland Security Advanced Research Projects Agency established in subsection (b).

(4) **UNDER SECRETARY.**—The term “Under Secretary” means the Under Secretary for Science and Technology.

(b) **HOMELAND SECURITY ADVANCED RESEARCH PROJECTS AGENCY.**—

(1) **ESTABLISHMENT.**—There is established the Homeland Security Advanced Research Projects Agency.

(2) **DIRECTOR.**—HSARPA shall be headed by a Director, who shall be appointed by the Secretary. The Director shall report to the Under Secretary.

(3) **RESPONSIBILITIES.**—The Director shall administer the Fund to award competitive, merit-reviewed grants, cooperative agreements or contracts to public or private entities, including businesses, federally funded research and development centers, and universities. The Director shall administer the Fund to—

(A) support basic and applied homeland security research to promote revolutionary changes in technologies that would promote homeland security;

(B) advance the development, testing and evaluation, and deployment of critical homeland security technologies; and

(C) accelerate the prototyping and deployment of technologies that would address homeland security vulnerabilities.

(4) TARGETED COMPETITIONS.—The Director may solicit proposals to address specific vulnerabilities identified by the Director.

(5) COORDINATION.—The Director shall ensure that the activities of HSARPA are coordinated with those of other relevant research agencies, and may run projects jointly with other agencies.

(6) PERSONNEL.—In hiring personnel for HSARPA, the Secretary shall have the hiring and management authorities described in section 1101 of the Strom Thurmond National Defense Authorization Act for Fiscal Year 1999 (5 U.S.C. 3104 note; Public Law 105–261). The term of appointments for employees under subsection (c)(1) of that section may not exceed 5 years before the granting of any extension under subsection (c)(2) of that section.

(7) DEMONSTRATIONS.—The Director, periodically, shall hold homeland security technology demonstrations to improve contact among technology developers, vendors and acquisition personnel.

(c) FUND.—

(1) ESTABLISHMENT.—There is established the Acceleration Fund for Research and Development of Homeland Security Technologies, which shall be administered by the Director of HSARPA.

(2) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated \$500,000,000 to the Fund for fiscal year 2003 and such sums as may be necessary thereafter.

(3) COAST GUARD.—Of the funds authorized to be appropriated under paragraph (2), not less than 10 percent of such funds for each fiscal year through fiscal year 2005 shall be authorized only for the Under Secretary, through joint agreement with the Commandant of the Coast Guard, to carry out research and development of improved ports, waterways and coastal security surveillance and perimeter protection capabilities for the purpose of minimizing the possibility that Coast Guard cutters, aircraft, helicopters, and personnel will be diverted from non-homeland security missions to the ports, waterways and coastal security mission.

SEC. 308. [6 U.S.C. 188] CONDUCT OF RESEARCH, DEVELOPMENT, DEMONSTRATION, TESTING AND EVALUATION.

(a) IN GENERAL.—The Secretary, acting through the Under Secretary for Science and Technology, shall carry out the responsibilities under section 302(4) through both extramural and intramural programs.

(b) EXTRAMURAL PROGRAMS.—

(1) IN GENERAL.—The Secretary, acting through the Under Secretary for Science and Technology, shall operate extramural research, development, demonstration, testing, and evaluation programs so as to—

(A) ensure that colleges, universities, private research institutes, and companies (and consortia thereof) from as many areas of the United States as practicable participate;

(B) ensure that the research funded is of high quality, as determined through merit review processes developed under section 302(14); and

(C) distribute funds through grants, cooperative agreements, and contracts.

(2) UNIVERSITY-BASED CENTERS FOR HOMELAND SECURITY.—

(A) DESIGNATION.—The Secretary, acting through the Under Secretary for Science and Technology, shall designate a university-based center or several university-based centers for homeland security. The purpose of the center or these centers shall be to establish a coordinated, university-based system to enhance the Nation's homeland security.

(B) CRITERIA FOR DESIGNATION.—Criteria for the designation of colleges or universities as a center for homeland security, shall include, but are not limited to, demonstrated expertise in—

- (i) The training of first responders.
- (ii) Responding to incidents involving weapons of mass destruction and biological warfare.
- (iii) Emergency and diagnostic medical services.
- (iv) Chemical, biological, radiological, and nuclear countermeasures or detection.
- (v) Animal and plant health and diagnostics.
- (vi) Food safety.
- (vii) Water and wastewater operations.
- (viii) Port and waterway security.
- (ix) Multi-modal transportation.
- (x) Information security and information engineering.
- (xi) Engineering.
- (xii) Educational outreach and technical assistance.
- (xiii) Border transportation and security.
- (xiv) The public policy implications and public dissemination of homeland security related research and development.

(C) DISCRETION OF SECRETARY.—To the extent that exercising such discretion is in the interest of homeland security, and with respect to the designation of any given university-based center for homeland security, the Secretary may except certain criteria as specified in section 308(b)(2)(B) and consider additional criteria beyond those specified in section 308(b)(2)(B). Upon designation of a university-based center for homeland security, the Secretary shall that day publish in the Federal Register the criteria that were excepted or added in the selection process and the justification for the set of criteria that were used for that designation.

(D) REPORT TO CONGRESS.—The Secretary shall report annually, from the date of enactment, to Congress concerning the implementation of this section. That report shall indicate which center or centers have been designated and how the designation or designations enhance

homeland security, as well as report any decisions to revoke or modify such designations.

(E) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated such sums as may be necessary to carry out this paragraph.

(c) INTRAMURAL PROGRAMS.—

(1) CONSULTATION.—In carrying out the duties under section 302, the Secretary, acting through the Under Secretary for Science and Technology, may draw upon the expertise of any laboratory of the Federal Government, whether operated by a contractor or the Government.

(2) LABORATORIES.—The Secretary, acting through the Under Secretary for Science and Technology, may establish a headquarters laboratory for the Department at any laboratory or site and may establish additional laboratory units at other laboratories or sites.

(3) CRITERIA FOR HEADQUARTERS LABORATORY.—If the Secretary chooses to establish a headquarters laboratory pursuant to paragraph (2), then the Secretary shall do the following:

(A) Establish criteria for the selection of the headquarters laboratory in consultation with the National Academy of Sciences, appropriate Federal agencies, and other experts.

(B) Publish the criteria in the Federal Register.

(C) Evaluate all appropriate laboratories or sites against the criteria.

(D) Select a laboratory or site on the basis of the criteria.

(E) Report to the appropriate congressional committees on which laboratory was selected, how the selected laboratory meets the published criteria, and what duties the headquarters laboratory shall perform.

(4) LIMITATION ON OPERATION OF LABORATORIES.—No laboratory shall begin operating as the headquarters laboratory of the Department until at least 30 days after the transmittal of the report required by paragraph (3)(E).

SEC. 309. [6 U.S.C. 189] UTILIZATION OF DEPARTMENT OF ENERGY NATIONAL LABORATORIES AND SITES IN SUPPORT OF HOMELAND SECURITY ACTIVITIES.

(a) AUTHORITY TO UTILIZE NATIONAL LABORATORIES AND SITES.—

(1) IN GENERAL.—In carrying out the missions of the Department, the Secretary may utilize the Department of Energy national laboratories and sites through any 1 or more of the following methods, as the Secretary considers appropriate:

(A) A joint sponsorship arrangement referred to in subsection (b).

(B) A direct contract between the Department and the applicable Department of Energy laboratory or site, subject to subsection (c).

(C) Any “work for others” basis made available by that laboratory or site.

(D) Any other method provided by law.

(2) ACCEPTANCE AND PERFORMANCE BY LABS AND SITES.—Notwithstanding any other law governing the administration,

mission, use, or operations of any of the Department of Energy national laboratories and sites, such laboratories and sites are authorized to accept and perform work for the Secretary, consistent with resources provided, and perform such work on an equal basis to other missions at the laboratory and not on a noninterference basis with other missions of such laboratory or site.

(b) JOINT SPONSORSHIP ARRANGEMENTS.—

(1) LABORATORIES.—The Department may be a joint sponsor, under a multiple agency sponsorship arrangement with the Department of Energy, of 1 or more Department of Energy national laboratories in the performance of work.

(2) SITES.—The Department may be a joint sponsor of a Department of Energy site in the performance of work as if such site were a federally funded research and development center and the work were performed under a multiple agency sponsorship arrangement with the Department.

(3) PRIMARY SPONSOR.—The Department of Energy shall be the primary sponsor under a multiple agency sponsorship arrangement referred to in paragraph (1) or (2).

(4) LEAD AGENT.—The Secretary of Energy shall act as the lead agent in coordinating the formation and performance of a joint sponsorship arrangement under this subsection between the Department and a Department of Energy national laboratory or site.

(5) FEDERAL ACQUISITION REGULATION.—Any work performed by a Department of Energy national laboratory or site under a joint sponsorship arrangement under this subsection shall comply with the policy on the use of federally funded research and development centers under the Federal Acquisition Regulations.

(6) FUNDING.—The Department shall provide funds for work at the Department of Energy national laboratories or sites, as the case may be, under a joint sponsorship arrangement under this subsection under the same terms and conditions as apply to the primary sponsor of such national laboratory under section 303(b)(1)(C) of the Federal Property and Administrative Services Act of 1949 (41 U.S.C. 253(b)(1)(C)) or of such site to the extent such section applies to such site as a federally funded research and development center by reason of this subsection.

(c) SEPARATE CONTRACTING.—To the extent that programs or activities transferred by this Act from the Department of Energy to the Department of Homeland Security are being carried out through direct contracts with the operator of a national laboratory or site of the Department of Energy, the Secretary of Homeland Security and the Secretary of Energy shall ensure that direct contracts for such programs and activities between the Department of Homeland Security and such operator are separate from the direct contracts of the Department of Energy with such operator.

(d) AUTHORITY WITH RESPECT TO COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS AND LICENSING AGREEMENTS.—In connection with any utilization of the Department of Energy national laboratories and sites under this section, the Secretary may permit the director of any such national laboratory or site to enter into co-

operative research and development agreements or to negotiate licensing agreements with any person, any agency or instrumentality, of the United States, any unit of State or local government, and any other entity under the authority granted by section 12 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a). Technology may be transferred to a non-Federal party to such an agreement consistent with the provisions of sections 11 and 12 of that Act (15 U.S.C. 3710, 3710a).

(e) **REIMBURSEMENT OF COSTS.**—In the case of an activity carried out by the operator of a Department of Energy national laboratory or site in connection with any utilization of such laboratory or site under this section, the Department of Homeland Security shall reimburse the Department of Energy for costs of such activity through a method under which the Secretary of Energy waives any requirement for the Department of Homeland Security to pay administrative charges or personnel costs of the Department of Energy or its contractors in excess of the amount that the Secretary of Energy pays for an activity carried out by such contractor and paid for by the Department of Energy.

(f) **LABORATORY DIRECTED RESEARCH AND DEVELOPMENT BY THE DEPARTMENT OF ENERGY.**—No funds authorized to be appropriated or otherwise made available to the Department in any fiscal year may be obligated or expended for laboratory directed research and development activities carried out by the Department of Energy unless such activities support the missions of the Department of Homeland Security.

(g) **OFFICE FOR NATIONAL LABORATORIES.**—There is established within the Directorate of Science and Technology an Office for National Laboratories, which shall be responsible for the coordination and utilization of the Department of Energy national laboratories and sites under this section in a manner to create a networked laboratory system for the purpose of supporting the missions of the Department.

(h) **DEPARTMENT OF ENERGY COORDINATION ON HOMELAND SECURITY RELATED RESEARCH.**—The Secretary of Energy shall ensure that any research, development, test, and evaluation activities conducted within the Department of Energy that are directly or indirectly related to homeland security are fully coordinated with the Secretary to minimize duplication of effort and maximize the effective application of Federal budget resources.

SEC. 310. [6 U.S.C. 190] TRANSFER OF PLUM ISLAND ANIMAL DISEASE CENTER, DEPARTMENT OF AGRICULTURE.

(a) **IN GENERAL.**—In accordance with title XV, the Secretary of Agriculture shall transfer to the Secretary of Homeland Security the Plum Island Animal Disease Center of the Department of Agriculture, including the assets and liabilities of the Center.

(b) **CONTINUED DEPARTMENT OF AGRICULTURE ACCESS.**—On completion of the transfer of the Plum Island Animal Disease Center under subsection (a), the Secretary of Homeland Security and the Secretary of Agriculture shall enter into an agreement to ensure that the Department of Agriculture is able to carry out research, diagnostic, and other activities of the Department of Agriculture at the Center.

(c) **DIRECTION OF ACTIVITIES.**—The Secretary of Agriculture shall continue to direct the research, diagnostic, and other activi-

ties of the Department of Agriculture at the Center described in subsection (b).

(d) NOTIFICATION.—

(1) IN GENERAL.—At least 180 days before any change in the biosafety level at the Plum Island Animal Disease Center, the President shall notify Congress of the change and describe the reasons for the change.

(2) LIMITATION.—No change described in paragraph (1) may be made earlier than 180 days after the completion of the transition period (as defined in section 1501).

SEC. 311. [6 U.S.C. 191] HOMELAND SECURITY SCIENCE AND TECHNOLOGY ADVISORY COMMITTEE.

(a) ESTABLISHMENT.—There is established within the Department a Homeland Security Science and Technology Advisory Committee (in this section referred to as the “Advisory Committee”). The Advisory Committee shall make recommendations with respect to the activities of the Under Secretary for Science and Technology, including identifying research areas of potential importance to the security of the Nation.

(b) MEMBERSHIP.—

(1) APPOINTMENT.—The Advisory Committee shall consist of 20 members appointed by the Under Secretary for Science and Technology, which shall include emergency first-responders or representatives of organizations or associations of emergency first-responders. The Advisory Committee shall also include representatives of citizen groups, including economically disadvantaged communities. The individuals appointed as members of the Advisory Committee—

(A) shall be eminent in fields such as emergency response, research, engineering, new product development, business, and management consulting;

(B) shall be selected solely on the basis of established records of distinguished service;

(C) shall not be employees of the Federal Government; and

(D) shall be so selected as to provide representation of a cross-section of the research, development, demonstration, and deployment activities supported by the Under Secretary for Science and Technology.

(2) NATIONAL RESEARCH COUNCIL.—The Under Secretary for Science and Technology may enter into an arrangement for the National Research Council to select members of the Advisory Committee, but only if the panel used by the National Research Council reflects the representation described in paragraph (1).

(c) TERMS OF OFFICE.—

(1) IN GENERAL.—Except as otherwise provided in this subsection, the term of office of each member of the Advisory Committee shall be 3 years.

(2) ORIGINAL APPOINTMENTS.—The original members of the Advisory Committee shall be appointed to three classes of three members each. One class shall have a term of 1 year, 1 a term of 2 years, and the other a term of 3 years.

(3) VACANCIES.—A member appointed to fill a vacancy occurring before the expiration of the term for which the mem-

ber's predecessor was appointed shall be appointed for the remainder of such term.

(d) **ELIGIBILITY.**—A person who has completed two consecutive full terms of service on the Advisory Committee shall thereafter be ineligible for appointment during the 1-year period following the expiration of the second such term.

(e) **MEETINGS.**—The Advisory Committee shall meet at least quarterly at the call of the Chair or whenever one-third of the members so request in writing. Each member shall be given appropriate notice of the call of each meeting, whenever possible not less than 15 days before the meeting.

(f) **QUORUM.**—A majority of the members of the Advisory Committee not having a conflict of interest in the matter being considered by the Advisory Committee shall constitute a quorum.

(g) **CONFLICT OF INTEREST RULES.**—The Advisory Committee shall establish rules for determining when 1 of its members has a conflict of interest in a matter being considered by the Advisory Committee.

(h) **REPORTS.**—

(1) **ANNUAL REPORT.**—The Advisory Committee shall render an annual report to the Under Secretary for Science and Technology for transmittal to Congress on or before January 31 of each year. Such report shall describe the activities and recommendations of the Advisory Committee during the previous year.

(2) **ADDITIONAL REPORTS.**—The Advisory Committee may render to the Under Secretary for transmittal to Congress such additional reports on specific policy matters as it considers appropriate.

(i) **FEDERAL ADVISORY COMMITTEE ACT EXEMPTION.**—Section 14 of the Federal Advisory Committee Act shall not apply to the Advisory Committee.

(j) **TERMINATION.**—The Department of Homeland Security Science and Technology Advisory Committee shall terminate 3 years after the effective date of this Act.

SEC. 312. [6 U.S.C. 192] HOMELAND SECURITY INSTITUTE.

(a) **ESTABLISHMENT.**—The Secretary shall establish a federally funded research and development center to be known as the "Homeland Security Institute" (in this section referred to as the "Institute").

(b) **ADMINISTRATION.**—The Institute shall be administered as a separate entity by the Secretary.

(c) **DUTIES.**—The duties of the Institute shall be determined by the Secretary, and may include the following:

(1) Systems analysis, risk analysis, and simulation and modeling to determine the vulnerabilities of the Nation's critical infrastructures and the effectiveness of the systems deployed to reduce those vulnerabilities.

(2) Economic and policy analysis to assess the distributed costs and benefits of alternative approaches to enhancing security.

(3) Evaluation of the effectiveness of measures deployed to enhance the security of institutions, facilities, and infrastructure that may be terrorist targets.

(4) Identification of instances when common standards and protocols could improve the interoperability and effective utilization of tools developed for field operators and first responders.

(5) Assistance for Federal agencies and departments in establishing testbeds to evaluate the effectiveness of technologies under development and to assess the appropriateness of such technologies for deployment.

(6) Design of metrics and use of those metrics to evaluate the effectiveness of homeland security programs throughout the Federal Government, including all national laboratories.

(7) Design of and support for the conduct of homeland security-related exercises and simulations.

(8) Creation of strategic technology development plans to reduce vulnerabilities in the Nation's critical infrastructure and key resources.

(d) CONSULTATION ON INSTITUTE ACTIVITIES.—In carrying out the duties described in subsection (c), the Institute shall consult widely with representatives from private industry, institutions of higher education, nonprofit institutions, other Government agencies, and federally funded research and development centers.

(e) USE OF CENTERS.—The Institute shall utilize the capabilities of the National Infrastructure Simulation and Analysis Center.

(f) ANNUAL REPORTS.—The Institute shall transmit to the Secretary and Congress an annual report on the activities of the Institute under this section.

(g) TERMINATION.—The Homeland Security Institute shall terminate 3 years after the effective date of this Act.

SEC. 313. [6 U.S.C. 193] TECHNOLOGY CLEARINGHOUSE TO ENCOURAGE AND SUPPORT INNOVATIVE SOLUTIONS TO ENHANCE HOMELAND SECURITY.

(a) ESTABLISHMENT OF PROGRAM.—The Secretary, acting through the Under Secretary for Science and Technology, shall establish and promote a program to encourage technological innovation in facilitating the mission of the Department (as described in section 101).

(b) ELEMENTS OF PROGRAM.—The program described in subsection (a) shall include the following components:

(1) The establishment of a centralized Federal clearinghouse for information relating to technologies that would further the mission of the Department for dissemination, as appropriate, to Federal, State, and local government and private sector entities for additional review, purchase, or use.

(2) The issuance of announcements seeking unique and innovative technologies to advance the mission of the Department.

(3) The establishment of a technical assistance team to assist in screening, as appropriate, proposals submitted to the Secretary (except as provided in subsection (c)(2)) to assess the feasibility, scientific and technical merits, and estimated cost of such proposals, as appropriate.

(4) The provision of guidance, recommendations, and technical assistance, as appropriate, to assist Federal, State, and local government and private sector efforts to evaluate and im-

plement the use of technologies described in paragraph (1) or (2).

(5) The provision of information for persons seeking guidance on how to pursue proposals to develop or deploy technologies that would enhance homeland security, including information relating to Federal funding, regulation, or acquisition.

(c) MISCELLANEOUS PROVISIONS.—

(1) IN GENERAL.—Nothing in this section shall be construed as authorizing the Secretary or the technical assistance team established under subsection (b)(3) to set standards for technology to be used by the Department, any other executive agency, any State or local government entity, or any private sector entity.

(2) CERTAIN PROPOSALS.—The technical assistance team established under subsection (b)(3) shall not consider or evaluate proposals submitted in response to a solicitation for offers for a pending procurement or for a specific agency requirement.

(3) COORDINATION.—In carrying out this section, the Secretary shall coordinate with the Technical Support Working Group (organized under the April 1982 National Security Decision Directive Numbered 30).

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NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY ACT

(ACT OF MARCH 3, 1901)

CHAP. 872.—AN ACT To establish the National Bureau of Standards.

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

FINDINGS AND PURPOSES

SECTION 1. [15 U.S.C. 271] (a) The Congress finds and declares the following:

(1) The future well-being of the United States economy depends on a strong manufacturing base and requires continual improvements in manufacturing technology, quality control, and techniques for ensuring product reliability and cost-effectiveness.

(2) Precise measurements, calibrations, and standards help United States industry and manufacturing concerns compete strongly in world markets.

(3) Improvements in manufacturing and product technology depend on fundamental scientific and engineering research to develop (A) the precise and accurate measurement methods and measurement standards needed to improve quality and reliability, and (B) new technological processes by which such improved methods may be used in practice to improve manufacturing and to assist industry to transfer important laboratory discoveries into commercial products.

(4) Scientific progress, public safety, and product compatibility and standardization also depend on the development of precise measurement methods, standards, and related basic technologies.

(5) The National Bureau of Standards since its establishment has served as the Federal focal point in developing basic measurement standards and related technologies, has taken a lead role in stimulating cooperative work among private industrial organizations in efforts to surmount technological hurdles, and otherwise has been responsible for assisting in the improvement of industrial technology.

(6) The Federal Government should maintain a national science, engineering, and technology laboratory which provides measurement methods, standards, and associated technologies and which aids United States companies in using new technologies to improve products and manufacturing processes.

(7) Such national laboratory also should serve industry, trade associations, State technology programs, labor organizations, professional societies, and educational institutions by disseminating information on new basic technologies including automated manufacturing processes.

(b) It is the purpose of this Act—

(1) to rename the National Bureau of Standards as the National Institute of Standards and Technology and to modernize and restructure that agency to augment its unique ability to enhance the competitiveness of American industry while maintaining its traditional function as lead national laboratory for providing the measurements, calibrations, and quality assurance techniques which underpin United States commerce, technological progress, improved product reliability and manufacturing processes, and public safety;

(2) to assist private sector initiatives to capitalize on advanced technology;

(3) to advance, through cooperative efforts among industries, universities, and government laboratories, promising research and development projects, which can be optimized by the private sector for commercial and industrial applications; and

(4) to promote shared risks, accelerated development, and pooling of skills which will be necessary to strengthen America's manufacturing industries.

ESTABLISHMENT, FUNCTIONS, AND ACTIVITIES

SEC. 2. [15 U.S.C. 272] (a) There is established within the Department of Commerce a science, engineering, technology, and measurement laboratory to be known as the National Institute of Standards and Technology (hereafter in this Act referred to as the "Institute").

(b) The Secretary of Commerce (hereafter in this Act referred to as the "Secretary") acting through the Director of the Institute (hereafter in this Act referred to as the "Director") and, if appropriate, through other officials, is authorized to take all actions necessary and appropriate to accomplish the purposes of this Act, including the following functions of the Institute—

(1) to assist industry in the development of technology and procedures needed to improve quality, to modernize manufacturing processes, to ensure product reliability, manufacturability, functionality, and cost-effectiveness, and to facilitate the more rapid commercialization, especially by small- and medium-sized companies throughout the United States, of products based on new scientific discoveries in fields such as automation, electronics, advanced materials, biotechnology, and optical technologies;

(2) to develop, maintain, and retain custody of the national standards of measurement, and provide the means and methods for making measurements consistent with those standards;

(3) to compare standards used in scientific investigations, engineering, manufacturing, commerce, industry, and educational institutions with the standards adopted or recognized by the Federal Government and to coordinate the use by Federal agencies of private sector standards, emphasizing where

possible the use of standards developed by private, consensus organizations;

(4) to enter into contracts, including cooperative research and development arrangements, in furtherance of the purposes of this Act;

(5) to provide United States industry, Government, and educational institutions with a national clearinghouse of current information, techniques, and advice for the achievement of higher quality and productivity based on current domestic and international scientific and technical development;

(6) to assist industry in the development of measurements, measurement methods, and basic measurement technology;

(7) to determine, compile, evaluate, and disseminate physical constants and the properties and performance of conventional and advanced materials when they are important to science, engineering, manufacturing, education, commerce, and industry and are not available with sufficient accuracy elsewhere;

(8) to develop a fundamental basis and methods for testing materials, mechanisms, structures, equipment, and systems, including those used by the Federal Government;

(9) to assure the compatibility of United States national measurement standards with those of other nations;

(10) to cooperate with other departments and agencies of the Federal Government, with industry, with State and local governments, with the governments of other nations and international organizations, and with private organizations in establishing standard practices, codes, specifications, and voluntary consensus standards;

(11) to advise government and industry on scientific and technical problems;

(12) to invent, develop, and (when appropriate) promote transfer to the private sector of measurement devices to serve special national needs; and

(13) to coordinate Federal, State, and local technical standards activities and conformity assessment activities, with private sector technical standards activities and conformity assessment activities, with the goal of eliminating unnecessary duplication and complexity in the development and promulgation of conformity assessment requirements and measures.

(c) In carrying out the functions specified in subsection (b), the Secretary, acting through the Director and, if appropriate, through other appropriate officials, may, among other things—

(1) construct physical standards;

(2) test, calibrate, and certify standards and standard measuring apparatus;

(3) study and improve instruments, measurement methods, and industrial process control and quality assurance techniques;

(4) cooperate with the States in securing uniformity in weights and measures laws and methods of inspection;

(5) cooperate with foreign scientific and technical institutions to understand technological developments in other countries better;

(6) prepare, certify, and sell standard reference materials for use in ensuring the accuracy of chemical analyses and measurements of physical and other properties of materials;

(7) in furtherance of the purposes of this Act, accept research associates, cash donations, and donated equipment from industry, and also engage with industry in research to develop new basic and generic technologies for traditional and new products and for improved production and manufacturing;

(8) study and develop fundamental scientific understanding and improved measurement, analysis, synthesis, processing, and fabrication methods for chemical substances and compounds, ferrous and nonferrous metals, and all traditional and advanced materials, including processes of degradation;

(9) investigate ionizing and nonionizing radiation and radioactive substances, their uses, and ways to protect people, structures, and equipment from their harmful effects;

(10) determine the atomic and molecular structure of matter, through analysis of spectra and other methods, to provide a basis for predicting chemical and physical structures and reactions and for designing new materials and chemical substances, including biologically active macromolecules;

(11) perform research on electromagnetic waves, including optical waves, and on properties and performance of electrical, electronic, and electromagnetic devices and systems and their essential materials, develop and maintain related standards, and disseminate standard signals through broadcast and other means;

(12) develop and test standard interfaces, communication protocols, and data structures for computer and related telecommunications systems;

(13) study computer systems (as that term is defined in section 20(d) of this Act) and their use to control machinery and processes;

(14) perform research to develop standards and test methods to advance the effective use of computers and related systems and to protect the information stored, processed, and transmitted by such systems and to provide advice in support of policies affecting Federal computer and related telecommunications systems;

(15) determine properties of building materials and structural elements, and encourage their standardization and most effective use, including investigation of fire-resisting properties of building materials and conditions under which they may be most efficiently used, and the standardization of types of appliances for fire prevention;

(16) undertake such research in engineering, pure and applied mathematics, statistics, computer science, materials science, and the physical sciences as may be necessary to carry out and support the functions specified in this section;

(17) compile, evaluate, publish, and otherwise disseminate general, specific and technical data resulting from the performance of the functions specified in this section or from other sources when such data are important to science, engineering, or industry, or to the general public, and are not available elsewhere;

(18) collect, create, analyze, and maintain specimens of scientific value;

(19) operate national user facilities;

(20) evaluate promising inventions and other novel technical concepts submitted by inventors and small companies and work with other Federal agencies, States, and localities to provide appropriate technical assistance and support for those inventions which are found in the evaluation process to have commercial promise;

(21) demonstrate the results of the Institute's activities by exhibits or other methods of technology transfer, including the use of scientific or technical personnel of the Institute for part-time or intermittent teaching and training activities at educational institutions of higher learning as part of and incidental to their official duties; and

(22) undertake such other activities similar to those specified in this subsection as the Director determines appropriate.

(d) In carrying out the extramural funding programs of the Institute, including the programs established under sections 25, 26, and 28 of this Act, the Secretary may retain reasonable amounts of any funds appropriated pursuant to authorizations for these programs in order to pay for the Institute's management of these programs.

SEC. 3. [15 U.S.C. 273] The Institute is authorized to exercise its functions for the Government of the United States and for international organizations of which the United States is a member; for governments of friendly countries; for any State or municipal government within the United States; or for any scientific society, educational institution, firm, corporation, or individual within the United States or friendly countries engaged in manufacturing or other pursuits requiring the use of standards or standard measuring instruments: *Provided*, That the exercise of these functions for international organizations, governments of friendly countries and scientific societies, educational institutions, firms, corporations, or individuals therein shall be in coordination with other agencies of the United States Government, in particular the Department of State in respect to foreign entities. All requests for the services of the Institute shall be made in accordance with the rules and regulations herein established.

SEC. 4. [Repealed]

SEC. 5. [15 U.S.C. 274] The Director shall be appointed by the President, by and with the advice and consent of the Senate. The Director shall have the general supervision of the Institute, its equipment, and the exercise of its functions. The Director shall make an annual report to the Secretary of Commerce. The Director may issue, when necessary, bulletins for public distribution, containing such information as may be of value to the public or facilitate the exercise of the functions of the Institute. The Director shall be compensated at the rate in effect for level IV of the Executive Schedule under section 5315 of title 5, United States Code. Until such time as the Director assumes office under this section, the most recent Director of the National Bureau of Standards shall serve as Director.

SEC. 6. [15 U.S.C. 275] That the officers and employees provided for by this Act, except the director, shall be appointed by the

Secretary of the Treasury, at such time as their respective services may become necessary.

SEC. 7. [15 U.S.C. 275a] The Secretary shall charge for services performed under the authority of section 3 of this Act, except in cases where he determines that the interest of the Government would be best served by waiving the charge. Such charges may be based upon fixed prices or cost. The appropriation or fund bearing the cost of the services may be reimbursed, or the Secretary may require advance payment subject to such adjustment on completion of the work as may be agreed upon.

SEC. 8. [15 U.S.C. 276] In the absence of specific agreement to the contrary, additional facilities, including equipment, purchased pursuant to the performance of services authorized by section 3 of this Act shall become the property of the Department of Commerce.

SEC. 9. [15 U.S.C. 277] That the Secretary of the Treasury shall, from time to time, make regulations regarding the payment of fees, the limits of tolerance to be attained in standards submitted for verification, the sealing of standards, the disbursement and receipt of moneys, and such other matters as he may deem necessary for carrying this Act into effect.

VISITING COMMITTEE ON ADVANCED TECHNOLOGY

SEC. 10. [15 U.S.C. 278] (a) There is established within the Institute a Visiting Committee on Advanced Technology (hereafter in this Act referred to as the "Committee"). The Committee shall consist of 15 members appointed by the Director, at least 10 of whom shall be from United States industry. The Director shall appoint as original members of the Committee any final members of the National Bureau of Standards Visiting Committee who wish to serve in such capacity. In addition to any powers and functions otherwise granted to it by this Act, the Committee shall review and make recommendations regarding general policy for the Institute, its organization, its budget, and its programs within the framework of applicable national policies as set forth by the President and the Congress.

(b) The persons appointed as members of the Committee—

(1) shall be eminent in fields such as business, research, new product development, engineering, labor, education, management consulting, environment, and international relations;

(2) shall be selected solely on the basis of established records of distinguished service;

(3) shall not be employees of the Federal Government; and

(4) shall be so selected as to provide representation of a cross-section of the traditional and emerging United States industries.

The Director is requested, in making appointments of persons as members of the Committee, to give due consideration to any recommendations which may be submitted to the Director by the National Academies, professional societies, business associations, labor associations, and other appropriate organizations.

(c)(1) The term of office of each member of the Committee, other than the original members, shall be 3 years; except that any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be

appointed for the remainder of such term. Any person who has completed two consecutive full terms of service on the Committee shall thereafter be ineligible for appointment during the one-year period following the expiration of the second such term.

(2) The original members of the Committee shall be elected to three classes of three members each; one class shall have a term of one year, one a term of two years, and the other a term of three years.

(d) The Committee shall meet at least quarterly at the call of the Chairman or whenever one-third of the members so request in writing. A majority of the members of the Committee not having a conflict of interest in the matter being considered by the Committee shall constitute a quorum. Each member shall be given appropriate notice, whenever possible, not less than 15 days prior to any meeting, of the call of such meeting.

(e) The Committee shall have an executive committee, and may delegate to it or to the Secretary such of the powers and functions granted to the Committee by this Act as it deems appropriate. The Committee is authorized to appoint from among its members such other committees as it deems necessary, and to assign to committees so appointed such survey and advisory functions as the Committee deems appropriate to assist it in exercising its powers and functions under this Act.

(f) The election of the Chairman and Vice Chairman of the Committee shall take place at each annual meeting occurring in an even-numbered year. The Vice Chairman shall perform the duties of the Chairman in his absence. In case a vacancy occurs in the chairmanship or vice chairmanship, the Committee shall elect a member to fill such vacancy.

(g) The Committee may, with the concurrence of a majority of its members, permit the appointment of a staff consisting of not more than four professional staff members and such clerical staff members as may be necessary. Such staff shall be appointed by the Director, after consultation with the Chairman of the Committee, and assigned at the direction of the Committee. The professional members of such staff may be appointed without regard to the provisions of title 5, United States Code, governing appointments in the competitive service and the provisions of chapter 51 of title 5 of such Code relating to classification, and compensated at a rate not exceeding the appropriate rate provided for individuals in grade GS-18 of the General Schedule under section 5332 of title 5 of such Code, as may be necessary to provide for the performance of such duties as may be prescribed by the Committee in connection with the exercise of its powers and functions under this Act.

(h)(1) The Committee shall render an annual report to the Secretary for submission to the Congress on or before January 31 in each year. Such report shall deal essentially, though not necessarily exclusively, with policy issues or matters which affect the Institute, including the Program established under section 28, or with which the Committee in its official role as the private sector policy advisor of the Institute is concerned. Each such report shall identify areas of research and research techniques of the Institute of potential importance to the long-term competitiveness of United States industry, in which the Institute possesses special competence, which could be used to assist United States enterprises

and United States industrial joint research and development ventures.

(2) The Committee shall render to the Secretary and the Congress such additional reports on specific policy matters as it deems appropriate.

[Section 11 (15 U.S.C. 278a) was repealed.]

SEC. 12. [15 U.S.C. 278b] (a) The Institute is authorized to utilize in the performance of its functions the Working Capital Fund established by the Act of June 29, 1950 (64 Stat. 275).

(b) The working capital of the fund shall be available for obligation and payment for any activities authorized by this Act, as amended, and for any activities for which provision is made in the appropriations which reimburse the fund.

(c) In the performance of authorized activities, the Working Capital Fund shall be available and may be reimbursed for expenses of hire of automobile, hire of consultants, and travel to meetings, to the extent that such expenses are authorized for the appropriations of the Department of Commerce.

(d) The fund may be credited with advances and reimbursements, including receipts from non-Federal sources, for services performed under the authority of section 3 of this Act.

(e) As used in this Act the term "cost" shall be construed to include directly related expenses and appropriate charges for indirect and administrative expenses.

(f) The amount of any earned net income resulting from the operation of the fund at the close of each fiscal year shall be paid into the general fund of the Treasury: *Provided*, That such earned net income may be applied to restore any prior impairment of the fund, and to ensure the availability of working capital necessary to replace equipment and inventories.

SEC. 13. [15 U.S.C. 278c] To the extent that funds are specifically appropriated therefor, the Secretary of Commerce is authorized to acquire land for such field sites as are necessary for the proper and efficient conduct of the activities authorized herein.

SEC. 14. [15 U.S.C. 278d] Within the limits of funds which are appropriated for the Institute, the Secretary of Commerce is authorized to undertake such construction of buildings and other facilities and to make sure improvements to existing buildings, grounds, and other facilities occupied or used by the Institute as are necessary for the proper and efficient conduct of the activities authorized herein.

SEC. 15. [15 U.S.C. 278e] In the performance of the functions of the Institute the Secretary of Commerce is authorized to undertake the following activities: (a) The purchase, repair, and cleaning of uniforms for guards; (b) the care, maintenance, protection, repair, and alteration of Institute buildings and other plant facilities, equipment, and property.¹ (c) the rental of field sites and laboratory, office, and warehouse space; (d) the purchase of reprints from technical journals or other periodicals and the payment of page charges for the publication of research papers and reports in such journals; (e) the furnishing of food and shelter without repayment therefor to employees of the Government at Arctic and Antarctic stations; (f) for the conduct of observations on radio propagation

¹So in law.

phenomena in the Arctic or Antarctic regions, the appointment of employees at base rates established by the Secretary of Commerce which shall not exceed such maximum rates as may be specified from time to time in the appropriation concerned, and without regard to the civil service and classification laws and titles II and III of the Federal Employees Pay Act of 1945; (g) the erection on leased property of specialized facilities and working and living quarters when the Secretary of Commerce determines that this will best serve the interests of the Government; and (h) the provision of transportation services for employees of the Institute between the facilities of the Institute and nearby public transportation, notwithstanding section 1344 of title 31, United States Code.

SEC. 16. [15 U.S.C. 278f] (a) There is hereby established within the Department of Commerce a Fire Research Center which shall have the mission of performing and supporting research on all aspects of fire with aim of providing scientific and technical knowledge applicable to the prevention and control of fires. The content and priorities of the research program shall be determined in consultation with the Administrator of the United States Fire Administration. In implementing this section, the Secretary is authorized to conduct, directly or through contracts or grants, a fire research program, including—

(1) basic and applied fire research for the purpose of arriving at an understanding of the fundamental processes underlying all aspects of fire. Such research shall include scientific investigations of—

(A) the physics and chemistry of combustion processes;

(B) the dynamics of flame ignition, flame spread, and flame extinguishment;

(C) the composition of combustion products developed by various sources and under various environmental conditions;

(D) the early stages of fires in buildings and other structures, structural subsystems and structural components in all other types of fires, including, but not limited to, forest fires, brush fires, fires underground, oil blowout fires, and waterborne fires, with the aim of improving early detection capability;

(E) the behavior of fires involving all types of buildings and other structures and their contents (including mobile homes and highrise buildings, construction materials, floor and wall coverings, coatings, furnishings, and other combustible materials), and all other types of fires, including forest fires, brush fires, fires underground, oil blowout fires, and waterborne fires;

(F) the unique fire hazards arising from the transportation and use, in industrial and professional practices, of combustible gases, fluids, and materials;

(G) design concepts for providing increased fire safety consistent with habitability, comfort, and human impact in buildings and other structures;

(H) such other aspects of the fire process as may be deemed useful in pursuing the objectives of the fire research program; and

- (1) methods, procedures, and equipment for arson prevention, detection, and investigation;
- (2) research into the biological, physiological, and psychological factors affecting human victims of fire, and the performance of individual members of fire services, including—
 - (A) the biological and physiological effects of toxic substances encountered in fires;
 - (B) the trauma, cardiac conditions, and other hazards resulting from exposure to fire;
 - (C) the development of simple and reliable tests for determining the cause of death from fires;
 - (D) improved methods of providing first aid to victims of fires;
 - (E) psychological and motivational characteristics of persons who engage in arson, and the prediction and cure of such behavior;
 - (F) the conditions of stress encountered by firefighters, the effects of such stress, and the alleviation and reduction of such conditions; and
 - (G) such other biological, psychological, and physiological effects of fire as have significance for purposes of control or prevention of fires; and
- (3) operation tests, demonstration projects, and fire investigations in support of the activities set forth in this section.

The Secretary shall insure that the results and advances arising from the work of the research program are disseminated broadly. He shall encourage the incorporation, to the extent applicable and practicable, of such results and advances in building codes, fire codes, and other relevant codes, test methods, fire service operations and training, and standards. The Secretary is authorized to encourage and assist in the development and adoption of uniform codes, test methods, and standards aimed at reducing fire losses and costs of fire protection.

(b) **AUTHORIZATION OF APPROPRIATIONS.**—For purposes of this section, there are authorized to be appropriated an amount not to exceed \$5,650,000 for the fiscal year ending September 30, 1980, which amount includes—

(1) \$525,000 for programs which are recommended in the report submitted to the Congress by the Administrator of the United States Fire Administration pursuant to section 24(b)(1) of the Federal Fire Prevention and Control Act of 1974 (15 U.S.C. 2220(b)(1)); and

(2) \$119,000 for adjustments required by law in salaries, pay, retirement, and employee benefits.

SEC. 17. [15 U.S.C. 278g] (a) The Secretary is authorized, notwithstanding any other provision of law, to expend such sums, within the limit of appropriated funds, as the Secretary may deem desirable, through the grant of fellowships or any other form of financial assistance, to defray the expenses of foreign nationals not in service to the Government of the United States while they are performing scientific or engineering work at the Institute or participating in the exchange of scientific or technical information at the Institute.

(b) The Congress consents to the acceptance by employees of the Institute of fellowships, lectureships, or other positions for the

performance of scientific or engineering activities or for the exchange of scientific or technical information, offered by a foreign government, and to the acceptance and retention by an employee of the Institute of any form of financial or other assistance provided by a foreign government as compensation for or as a means of defraying expenses associated with the performance of scientific or engineering activities or the exchange of scientific or technical information, in any case where the acceptance of such fellowship, lectureship, or position or the acceptance and retention of such assistance is determined by the Secretary to be appropriate and consistent with the interests of the United States. For the purposes of this subsection, the definitions appearing in section 7342(a) of title 5 of the United States Code apply. Civil actions may be brought and penalties assessed against any employee who knowingly accepts and retains assistance from a foreign government not consented to by this subsection in the same manner as is prescribed by section 7342(h) of title 5 of the United States Code.

(c) Provisions of law prohibiting the use of any part of any appropriation for the payment of compensation to any employee or officer of the Government of the United States who is not a citizen of the United States shall not apply to the payment of compensation to scientific or engineering personnel of the Institute.

(d) For any scientific and engineering disciplines for which there is a shortage of suitably qualified and available United States citizens and nationals, the Secretary is authorized to recruit and employ in scientific and engineering fields at the Institute foreign nationals who have been lawfully admitted to the United States for permanent residence under the Immigration and Nationality Act and who intend to become United States citizens. Employment of a person under this paragraph shall not be subject to the provisions of title 5, United States Code, governing employment in the competitive service, or to any prohibition in any other Act against the employment of aliens, or against the payment of compensation to them.

SEC. 18. [15 U.S.C. 278g-1] The Director is authorized to expend up to 1 per centum of the funds appropriated for activities of the Institute in any fiscal year, as the Director may deem desirable, for awards of research fellowships and other forms of financial assistance to students at institutions of higher learning within the United States who show promise as present or future contributors to the mission of the Institute, and to United States citizens for research and technical activities on Institute programs. The selection of persons to receive such fellowships and assistance shall be made on the basis of ability and of the relevance of the proposed work to the mission and programs of the Institute.

SEC. 19. [15 U.S.C. 278g-2] The Institute in conjunction with the National Academy of Sciences, shall establish and conduct a post-doctoral fellowship program, subject to the availability of appropriations, which shall be organized and carried out in substantially the same manner as the National Academy of Sciences/National Research Council Post-Doctoral Research Associate Program that was in effect prior to 1986, and which shall include not less than twenty nor more than 60 new fellows per fiscal year.

SEC. 19A. [15 U.S.C. 278g-2a] (a) The Director shall establish within the Institute a teacher science and technology enhancement

program to provide for professional development of mathematics and science teachers of elementary, middle, and secondary schools (as those terms are defined by the Director), including providing for the improvement of those teachers with respect to the understanding of science and the impacts of science on commerce.

(b) In carrying out the program under this section, the Director shall focus on the areas of—

- (1) scientific measurements;
- (2) tests and standards development;
- (3) industrial competitiveness and quality;
- (4) manufacturing;
- (5) technology transfer; and
- (6) any other area of expertise of the Institute that the Director determines to be appropriate.

(c) The Director shall develop and issue procedures and selection criteria for participants in the program.

(d) The program under this section shall be conducted on an annual basis during the summer months, during the period of time when a majority of elementary, middle, and secondary schools have not commenced a school year.

(e) The program shall provide for teachers' participation in activities at the laboratory facilities of the Institute, or shall utilize other means of accomplishing the goals of the program as determined by the Director, which may include the Internet, video conferencing and recording, and workshops and conferences.

SEC. 20. [15 U.S.C. 278g-3] (a) The Institute shall—

(1) have the mission of developing standards, guidelines, and associated methods and techniques for information systems;

(2) develop standards and guidelines, including minimum requirements, for information systems used or operated by an agency or by a contractor of an agency or other organization on behalf of an agency, other than national security systems (as defined in section 3532(b)(2) of title 44, United States Code);

(3) develop standards and guidelines, including minimum requirements, for providing adequate information security for all agency operations and assets, but such standards and guidelines shall not apply to national security systems; and

(4) carry out the responsibilities described in paragraph (3) through the Computer Security Division.

(b) The standards and guidelines required by subsection (a) shall include, at a minimum—

(1)(A) standards to be used by all agencies to categorize all information and information systems collected or maintained by or on behalf of each agency based on the objectives of providing appropriate levels of information security according to a range of risk levels;

(B) guidelines recommending the types of information and information systems to be included in each such category; and

(C) minimum information security requirements for information and information systems in each such category;

(2) a definition of and guidelines concerning detection and handling of information security incidents; and

(3) guidelines developed in coordination with the National Security Agency for identifying an information system as a national security system consistent with applicable requirements for national security systems, issued in accordance with law and as directed by the President.

(c) In developing standards and guidelines required by subsections (a) and (b), the Institute shall—

(1) consult with other agencies and offices (including, but not limited to, the Director of the Office of Management and Budget, the Departments of Defense and Energy, the National Security Agency, the General Accounting Office, and the Secretary of Homeland Security) to assure—

(A) use of appropriate information security policies, procedures, and techniques, in order to improve information security and avoid unnecessary and costly duplication of effort; and

(B) that such standards and guidelines are complementary with standards and guidelines employed for the protection of national security systems and information contained in such systems;

(2) provide the public with an opportunity to comment on proposed standards and guidelines;

(3) submit to the Director of the Office of Management and Budget for promulgation under section 11331 of title 40, United States Code—

(A) standards, as required under subsection (b)(1)(A), no later than 12 months after the date of the enactment of this section; and

(B) minimum information security requirements for each category, as required under subsection (b)(1)(C), no later than 36 months after the date of the enactment of this section;

(4) issue guidelines as required under subsection (b)(1)(B), no later than 18 months after the date of the enactment of this Act;

(5) ensure that such standards and guidelines do not require specific technological solutions or products, including any specific hardware or software security solutions;

(6) ensure that such standards and guidelines provide for sufficient flexibility to permit alternative solutions to provide equivalent levels of protection for identified information security risks; and

(7) use flexible, performance-based standards and guidelines that, to the greatest extent possible, permit the use of off-the-shelf commercially developed information security products.

(d) The Institute shall—

(1) submit standards developed pursuant to subsection (a), along with recommendations as to the extent to which these should be made compulsory and binding, to the Director of the Office of Management and Budget for promulgation under section 11331 of title 40, United States Code;

(2) provide assistance to agencies regarding—

(A) compliance with the standards and guidelines developed under subsection (a);

(B) detecting and handling information security incidents; and

(C) information security policies, procedures, and practices;

(3) conduct research, as needed, to determine the nature and extent of information security vulnerabilities and techniques for providing cost-effective information security;

(4) develop and periodically revise performance indicators and measures for agency information security policies and practices;

(5) evaluate private sector information security policies and practices and commercially available information technologies to assess potential application by agencies to strengthen information security;

(6) evaluate security policies and practices developed for national security systems to assess potential application by agencies to strengthen information security;

(7) periodically assess the effectiveness of standards and guidelines developed under this section and undertake revisions as appropriate;

(8) solicit and consider the recommendations of the Information Security and Privacy Advisory Board, established by section 21, regarding standards and guidelines developed under subsection (a) and submit such recommendations to the Director of the Office of Management and Budget with such standards submitted to the Director; and

(9) prepare an annual public report on activities undertaken in the previous year, and planned for the coming year, to carry out responsibilities under this section.

(e) As used in this section—

(1) the term “agency” has the same meaning as provided in section 3502(1) of title 44, United States Code;

(2) the term “information security” has the same meaning as provided in section 3532(1) of such title;

(3) the term “information system” has the same meaning as provided in section 3502(8) of such title;

(4) the term “information technology” has the same meaning as provided in section 11101 of title 40, United States Code; and

(5) the term “national security system” has the same meaning as provided in section 3532(b)(2) of such title.

SEC. 21. [15 U.S.C. 278g-4] (a) There is hereby established a Information Security and Privacy Advisory Board within the Department of Commerce. The Secretary of Commerce shall appoint the chairman of the Board. The Board shall be composed of twelve additional members appointed by the Secretary of Commerce as follows:

(1) four members from outside the Federal Government who are eminent in the information technology industry, at least one of whom is representative of small or medium sized companies in such industries;

(2) four members from outside the Federal Government who are eminent in the fields of information technology, or related disciplines, but who are not employed by or representative of a producer of information technology; and

(3) four members from the Federal Government who have information system management experience, including experience in information security and privacy, at least one of whom shall be from the National Security Agency.

(b) The duties of the Board shall be—

(1) to identify emerging managerial, technical, administrative, and physical safeguard issues relative to information security and privacy;

(2) to advise the Institute and the Director of the Office of Management and Budget on information security and privacy issues pertaining to Federal Government information systems, including through review of proposed standards and guidelines developed under section 20; and

(3) to report annually its findings to the Secretary of Commerce, the Director of the Office of Management and Budget, the Director of the National Security Agency, and the appropriate committees of the Congress.

(c) The term of office of each member of the Board shall be four years, except that—

(1) of the initial members, three shall be appointed for terms of one year, three shall be appointed for terms of two years, three shall be appointed for terms of three years, and three shall be appointed for terms of four years; and

(2) any member appointed to fill a vacancy in the Board shall serve for the remainder of the term for which his predecessor was appointed.

(d) The Board shall not act in the absence of a quorum, which shall consist of seven members.

(e) Members of the Board, other than full-time employees of the Federal Government, while attending meetings of such committees or while otherwise performing duties at the request of the Board Chairman while away from their homes or a regular place of business, may be allowed travel expenses in accordance with subchapter I of chapter 57 of title 5, United States Code.

(f) The Board shall hold meetings at such locations and at such time and place as determined by a majority of the Board.

(g) To provide the staff services necessary to assist the Board in carrying out its functions, the Board may utilize personnel from the Institute or any other agency of the Federal Government with the consent of the head of the agency.

(h) As used in this section, the terms “information system” and “information technology” have the meanings given in section 20.

SEC. 22. RESEARCH PROGRAM ON SECURITY OF COMPUTER SYSTEMS¹

(a) ESTABLISHMENT.—The Director shall establish a program of assistance to institutions of higher education that enter into partnerships with for-profit entities to support research to improve the security of computer systems. The partnerships may also include government laboratories and nonprofit research institutions. The program shall—

(1) include multidisciplinary, long-term research;

¹ Style of heading so in law. The code citation for section 22 is section 278h of title 15, United States Code.

(2) include research directed toward addressing needs identified through the activities of the Computer System Security and Privacy Advisory Board under section 20(f); and

(3) promote the development of a robust research community working at the leading edge of knowledge in subject areas relevant to the security of computer systems by providing support for graduate students, post-doctoral researchers, and senior researchers.

(b) FELLOWSHIPS.—

(1) POST-DOCTORAL RESEARCH FELLOWSHIPS.—The Director is authorized to establish a program to award post-doctoral research fellowships to individuals who are citizens, nationals, or lawfully admitted permanent resident aliens of the United States and are seeking research positions at institutions, including the Institute, engaged in research activities related to the security of computer systems, including the research areas described in section 4(a)(1) of the Cyber Security Research and Development Act.

(2) SENIOR RESEARCH FELLOWSHIPS.—The Director is authorized to establish a program to award senior research fellowships to individuals seeking research positions at institutions, including the Institute, engaged in research activities related to the security of computer systems, including the research areas described in section 4(a)(1) of the Cyber Security Research and Development Act. Senior research fellowships shall be made available for established researchers at institutions of higher education who seek to change research fields and pursue studies related to the security of computer systems.

(3) ELIGIBILITY.—

(A) IN GENERAL.—To be eligible for an award under this subsection, an individual shall submit an application to the Director at such time, in such manner, and containing such information as the Director may require.

(B) STIPENDS.—Under this subsection, the Director is authorized to provide stipends for post-doctoral research fellowships at the level of the Institute's Post Doctoral Research Fellowship Program and senior research fellowships at levels consistent with support for a faculty member in a sabbatical position.

(c) AWARDS; APPLICATIONS.—

(1) IN GENERAL.—The Director is authorized to award grants or cooperative agreements to institutions of higher education to carry out the program established under subsection (a). No funds made available under this section shall be made available directly to any for-profit partners.

(2) ELIGIBILITY.—To be eligible for an award under this section, an institution of higher education shall submit an application to the Director at such time, in such manner, and containing such information as the Director may require. The application shall include, at a minimum, a description of—

(A) the number of graduate students anticipated to participate in the research project and the level of support to be provided to each;

(B) the number of post-doctoral research positions included under the research project and the level of support to be provided to each;

(C) the number of individuals, if any, intending to change research fields and pursue studies related to the security of computer systems to be included under the research project and the level of support to be provided to each; and

(D) how the for-profit entities, nonprofit research institutions, and any other partners will participate in developing and carrying out the research and education agenda of the partnership.

(d) PROGRAM OPERATION.—

(1) MANAGEMENT.—The program established under subsection (a) shall be managed by individuals who shall have both expertise in research related to the security of computer systems and knowledge of the vulnerabilities of existing computer systems. The Director shall designate such individuals as program managers.

(2) MANAGERS MAY BE EMPLOYEES.—Program managers designated under paragraph (1) may be new or existing employees of the Institute or individuals on assignment at the Institute under the Intergovernmental Personnel Act of 1970, except that individuals on assignment at the Institute under the Intergovernmental Personnel Act of 1970 shall not directly manage such employees.

(3) MANAGER RESPONSIBILITY.—Program managers designated under paragraph (1) shall be responsible for—

(A) establishing and publicizing the broad research goals for the program;

(B) soliciting applications for specific research projects to address the goals developed under subparagraph (A);

(C) selecting research projects for support under the program from among applications submitted to the Institute, following consideration of—

(i) the novelty and scientific and technical merit of the proposed projects;

(ii) the demonstrated capabilities of the individual or individuals submitting the applications to successfully carry out the proposed research;

(iii) the impact the proposed projects will have on increasing the number of computer security researchers;

(iv) the nature of the participation by for-profit entities and the extent to which the proposed projects address the concerns of industry; and

(v) other criteria determined by the Director, based on information specified for inclusion in applications under subsection (c); and

(D) monitoring the progress of research projects supported under the program.

(4) REPORTS.—The Director shall report to the Senate Committee on Commerce, Science, and Transportation and the House of Representatives Committee on Science annually on the use and responsibility of individuals on assignment at the

Institute under the Intergovernmental Personnel Act of 1970 who are performing duties under subsection (d).

(e) REVIEW OF PROGRAM.—

(1) PERIODIC REVIEW.—The Director shall periodically review the portfolio of research awards monitored by each program manager designated in accordance with subsection (d). In conducting those reviews, the Director shall seek the advice of the Computer System Security and Privacy Advisory Board, established under section 21, on the appropriateness of the research goals and on the quality and utility of research projects managed by program managers in accordance with subsection (d).

(2) COMPREHENSIVE 5-YEAR REVIEW.—The Director shall also contract with the National Research Council for a comprehensive review of the program established under subsection (a) during the 5th year of the program. Such review shall include an assessment of the scientific quality of the research conducted, the relevance of the research results obtained to the goals of the program established under subsection (d)(3)(A), and the progress of the program in promoting the development of a substantial academic research community working at the leading edge of knowledge in the field. The Director shall submit to Congress a report on the results of the review under this paragraph no later than 6 years after the initiation of the program.

(f) DEFINITIONS.—In this section:

(1) COMPUTER SYSTEM.—The term “computer system” has the meaning given that term in section 20(d)(1).

(2) INSTITUTION OF HIGHER EDUCATION.—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)).

REPORTS TO CONGRESS

SEC. 23. [15 U.S.C. 278i] (a) The Director shall keep the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives¹ fully and currently informed with regard to all of the activities of the Institute.

(b) The Director shall justify in writing all changes in policies regarding fees for standard reference materials and calibration services occurring after June 30, 1987, including a description of the anticipated impact of any proposed changes on demand for and anticipated revenues from the materials and services. Changes in policy and fees shall not be effective unless and until the Director has submitted the proposed schedule and justification to the Congress and 30 days on which both Houses of Congress are in session have elapsed since such submission, except that the requirement of this sentence shall not apply with respect to adjustments which are based solely on changes in the costs of raw materials or of pro-

¹In accordance with section 1(a)(10) of Public Law 104-14 (109 Stat. 187), “the Committee on Science, Space, and Technology of the House of Representatives shall be treated as referring to the Committee on Science of the House of Representatives”.

ducing and delivering standard reference materials or calibration services.

STUDIES BY THE NATIONAL RESEARCH COUNCIL

SEC. 24. [15 U.S.C. 278j] The Director may periodically contract with the National Research Council for advice and studies to assist the Institute to serve United States industry and science. The subjects of such advice and studies may include—

(1) the competitive position of the United States in key areas of manufacturing and emerging technologies and research activities which would enhance that competitiveness;

(2) potential activities of the Institute, in cooperation with industry and the States, to assist in the transfer and dissemination of new technologies for manufacturing and quality assurance; and

(3) identification and assessment of likely barriers to widespread use of advanced manufacturing technology by the United States workforce, including training and other initiatives which could lead to a higher percentage of manufacturing jobs of United States companies being located within the borders of our country.

REGIONAL CENTERS FOR THE TRANSFER OF MANUFACTURING TECHNOLOGY

SEC. 25. [15 U.S.C. 278k] (a) The Secretary, through the Director and, if appropriate, through other officials, shall provide assistance for the creation and support of Regional Centers for the Transfer of Manufacturing Technology (hereafter in this Act referred to as the "Centers"). Such centers shall be affiliated with any United States-based nonprofit institution or organization, or group thereof, that applies for and is awarded financial assistance under this section in accordance with the description published by the Secretary in the Federal Register under subsection (c)(2). Individual awards shall be decided on the basis of merit review. The objective of the Centers is to enhance productivity and technological performance in United States manufacturing through—

(1) the transfer of manufacturing technology and techniques developed at the Institute to Centers and, through them, to manufacturing companies throughout the United States;

(2) the participation of individuals from industry, universities, State governments, other Federal agencies, and, when appropriate, the Institute in cooperative technology transfer activities;

(3) efforts to make new manufacturing technology and processes usable by United States-based small- and medium-sized companies;

(4) the active dissemination of scientific, engineering, technical, and management information about manufacturing to industrial firms, including small- and medium-sized manufacturing companies; and

(5) the utilization, when appropriate, of the expertise and capability that exists in Federal laboratories other than the Institute.

(b) The activities of the Centers shall include—

(1) the establishment of automated manufacturing systems and other advanced production technologies, based on research by the Institute, for the purpose of demonstrations and technology transfer;

(2) the active transfer and dissemination of research findings and Center expertise to a wide range of companies and enterprises, particularly small- and medium-sized manufacturers; and

(3) loans, on a selective, short-term basis, of items of advanced manufacturing equipment to small manufacturing firms with less than 100 employees.

(c)(1) The Secretary may provide financial support to any Center created under subsection (a) for a period not to exceed six years. The Secretary may not provide to a Center more than 50 percent of the capital and annual operating and maintenance funds required to create and maintain such Center.

(2) The Secretary shall publish in the Federal Register, within 90 days after the date of the enactment of this section, a draft description of a program for establishing Centers, including—

(A) a description of the program;

(B) procedures to be followed by applicants;

(C) criteria for determining qualified applicants;

(D) criteria, including those listed under paragraph (4), for choosing recipients of financial assistance under this section from among the qualified applicants; and

(E) maximum support levels expected to be available to Centers under the program in the fourth through sixth years of assistance under this section.

The Secretary shall publish a final description under this paragraph after the expiration of a 30-day comment period.

(3) Any nonprofit institution, or group thereof, or consortia of nonprofit institutions, including entities existing on the date of the enactment of this section, may submit to the Secretary an application for financial support under this subsection, in accordance with the procedures established by the Secretary and published in the Federal Register under paragraph (2). In order to receive assistance under this section, an applicant shall provide adequate assurances that it will contribute 50 percent or more of the proposed Center's capital and annual operating and maintenance costs for the first three years and an increasing share for each of the last three years. Each applicant shall also submit a proposal for the allocation of the legal rights associated with any invention which may result from the proposed Center's activities.

(4) The Secretary shall subject each such application to merit review. In making a decision whether to approve such application and provide financial support under this subsection, the Secretary shall consider at a minimum (A) the merits of the application, particularly those portions of the application regarding technology transfer, training and education, and adaptation of manufacturing technologies to the needs of particular industrial sectors, (B) the quality of service to be provided, (C) geographical diversity and extent of service area, and (D) the percentage of funding and amount of in-kind commitment from other sources.

(5) Each Center which receives financial assistance under this section shall be evaluated during its third year of operation by an evaluation panel appointed by the Secretary. Each such evaluation panel shall be composed of private experts, none of whom shall be connected with the involved Center, and Federal officials. An official of the Institute shall chair the panel. Each evaluation panel shall measure the involved Center's performance against the objectives specified in this section. The Secretary shall not provide funding for the fourth through the sixth years of such Center's operation unless the evaluation is positive. If the evaluation is positive, the Secretary may provide continued funding through the sixth year at declining levels. After the sixth year, a Center may receive additional financial support under this section if it has received a positive evaluation through an independent review, under procedures established by the Institute. Such an independent review shall be required at least every two years after the sixth year of operation. Funding received for a fiscal year under this section after the sixth year of operation shall not exceed one third of the capital and annual operating and maintenance costs of the Center under the program.

(6) The provisions of chapter 18 of title 35, United States Code, shall (to the extent not inconsistent with this section) apply to the promotion of technology from research by Centers under this section except for contracts for such specific technology extension or transfer services as may be specified by statute or by the Director.

(d) In addition to such sums as may be authorized and 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 for the purpose of providing Federal funds to support Centers. Any Center which is supported with funds which originally came from other Federal departments and agencies shall be selected and operated according to the provisions of this section.

ASSISTANCE TO STATE TECHNOLOGY PROGRAMS

SEC. 26. [15 U.S.C. 278l] (a) In addition to the Centers program created under section 25, the Secretary, through the Director and, if appropriate, through other officials, shall provide technical assistance to State technology programs throughout the United States, in order to help those programs help businesses, particularly small- and medium-sized businesses, to enhance their competitiveness through the application of science and technology.

(b) Such assistance from the Institute to State technology programs shall include, but not be limited to—

(1) technical information and advice from Institute personnel;

(2) workshops and seminars for State officials interested in transferring Federal technology to businesses; and

(3) entering into cooperative agreements when authorized to do so under this or any other Act.

NON-ENERGY INVENTIONS PROGRAM

SEC. 27. [15 U.S.C. 278m] In conjunction with the initial organization of the Institute, the Director shall establish a program for

the evaluation of inventions that are not energy-related to complement but not replace the Energy-Related Inventions Program established under section 14 of the Federal Nonnuclear Energy Research and Development Act of 1974 (Public Law 93-577). The Director shall submit an initial implementation plan for this program to accompany the organization plan for the Institute. The implementation plan shall include specific cost estimates, implementation schedules, and mechanisms to help finance the development of technologies the program has determined to have potential. In the preparation of the plan, the Director shall consult with appropriate Federal agencies, including the Small Business Administration and the Department of Energy, State and local government organizations, university officials, and private sector organizations in order to obtain advice on how those agencies and organizations might cooperate with the expansion of this program of the Institute.

ADVANCED TECHNOLOGY PROGRAM

SEC. 28. [15 U.S.C. 278n] (a) There is established in the Institute an Advanced Technology Program (hereafter in this Act referred to as the "Program") for the purpose of assisting United States businesses in creating and applying the generic technology and research results necessary to—

- (1) commercialize significant new scientific discoveries and technologies rapidly; and
- (2) refine manufacturing technologies.

The Secretary, acting through the Director, shall assure that the Program focuses on improving the competitive position of the United States and its businesses, gives preference to discoveries and to technologies that have great economic potential, and avoids providing undue advantage to specific companies. In operating the Program, the Secretary and Director shall, as appropriate, be guided by the findings and recommendations of the Biennial National Critical Technology Reports prepared pursuant to section 603 of the National Science and Technology Policy, Organization, and Priorities Act of 1976 (42 U.S.C. 6683).

(b) Under the Program established in subsection (a), and consistent with the mission and policies of the Institute, the Secretary, acting through the Director, and subject to subsections (c) and (d), may—

(1) aid industry-led United States joint research and development ventures (hereafter in this section referred to as "joint ventures") (which may also include universities and independent research organizations), including those involving collaborative technology demonstration projects which develop and test prototype equipment and processes, through—

(A) provision of organizational and technical advice; and

(B) participation in such joint ventures by means of grants, cooperative agreements, or contracts, if the Secretary, acting through the Director, determines participation to be appropriate, which may include (i) partial start-up funding, (ii) provision of a minority share of the cost of such joint ventures for up to 5 years, and (iii) making available equipment, facilities, and personnel,

provided that emphasis is placed on areas where the Institute has scientific or technological expertise, on solving generic problems of specific industries, and on making those industries more competitive in world markets;

(2) provide grants to and enter into contracts and cooperative agreements with United States businesses (especially small businesses), provided that emphasis is placed on applying the Institute's research, research techniques, and expertise to those organizations' research programs;

(3) involve the Federal laboratories in the Program, where appropriate, using among other authorities the cooperative research and development agreements provided for under section 12 of the Stevenson-Wydler Technology Innovation Act of 1980; and

(4) carry out, in a manner consistent with the provisions of this section, such other cooperative research activities with joint ventures as may be authorized by law or assigned to the Program by the Secretary.

(c) The Secretary, acting through the Director, is authorized to take all actions necessary and appropriate to establish and operate the Program, including—

(1) publishing in the Federal Register draft criteria and, no later than six months after the date of the enactment of this section, following a public comment period, final criteria, for the selection of recipients of assistance under subsection (b) (1) and (2);

(2) monitoring how technologies developed in its research program are used, and reporting annually to the Congress on the extent of any overseas transfer of these technologies;

(3) establishing procedures regarding financial reporting and auditing to ensure that contracts and awards are used for the purposes specified in this section, are in accordance with sound accounting practices, and are not funding existing or planned research programs that would be conducted in the same time period in the absence of financial assistance under the Program;

(4) assuring that the advice of the Committee established under section 10 is considered routinely in carrying out the responsibilities of the Institute; and

(5) providing for appropriate dissemination of Program research results.

(d) When entering into contracts or making awards under subsection (b), the following shall apply:

(1) No contract or award may be made until the research project in question has been subject to a merit review, and has, in the opinion of the reviewers appointed by the Director and the Secretary, acting through the Director, been shown to have scientific and technical merit.

(2) In the case of joint ventures, the Program shall not make an award unless the award will facilitate the formation of a joint venture or the initiation of a new research and development project by an existing joint venture.

(3) No Federal contract or cooperative agreement under subsection (b)(2) shall exceed \$2,000,000 over 3 years, or be for more than 3 years unless a full and complete explanation of

such proposed award, including reasons for exceeding these limits, is submitted in writing by the Secretary to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives¹. The proposed contract or cooperative agreement may be executed only after 30 calendar days on which both Houses of Congress are in session have elapsed since such submission. Federal funds made available under subsection (b)(2) shall be used only for direct costs and not for indirect costs, profits, or management fees of the contractor.

(4) In determining whether to make an award to a particular joint venture, the Program shall consider whether the members of the joint venture have made provisions for the appropriate participation of small United States businesses in such joint venture.

(5) Section 552 of title 5, United States Code, shall not apply to the following information obtained by the Federal Government on a confidential basis in connection with the activities of any business or any joint venture receiving funding under the Program—

(A) information on the business operation of any member of the business or joint venture; and

(B) trade secrets possessed by any business or any member of the joint venture.

(6) Intellectual property owned and developed by any business or joint venture receiving funding or by any member of such a joint venture may not be disclosed by any officer or employee of the Federal Government except in accordance with a written agreement between the owner or developer and the Program.

(7) If a business or joint venture fails before the completion of the period for which a contract or award has been made, after all allowable costs have been paid and appropriate audits conducted, the unspent balance of the Federal funds shall be returned by the recipient to the Program.

(8) Upon dissolution of any joint venture or at the time otherwise agreed upon, the Federal Government shall be entitled to a share of the residual assets of the joint venture proportional to the Federal share of the costs of the joint venture as determined by independent audit.

(9) A company shall be eligible to receive financial assistance under this section only if—

(A) the Secretary finds that the company's participation in the Program would be in the economic interest of the United States, as evidenced by investments in the United States in research, development, and manufacturing (including, for example, the manufacture of major components or subassemblies in the United States); significant contributions to employment in the United States; and agreement with respect to any technology arising from assistance provided under this section to promote the manufacture within the United States of products resulting

¹In accordance with section 1(a)(10) of Public Law 104-14 (109 Stat. 187), "the Committee on Science, Space, and Technology of the House of Representatives shall be treated as referring to the Committee on Science of the House of Representatives".

from that technology (taking into account the goals of promoting the competitiveness of United States industry), and to procure parts and materials from competitive suppliers; and

(B) either—

(i) the company is a United States-owned company; or

(ii) the Secretary finds that the company is incorporated in the United States and has a parent company which is incorporated in a country which affords to United States-owned companies opportunities, comparable to those afforded to any other company, to participate in any joint venture similar to those authorized under this Act; affords to United States-owned companies local investment opportunities comparable to those afforded to any other company; and affords adequate and effective protection for the intellectual property rights of United States-owned companies.

(10) Grants, contracts, and cooperative assignments under this section shall be designed to support projects which are high risk and which have the potential for eventual substantial widespread commercial application. In order to receive a grant, contract, or cooperative agreement under this section, a research and development entity shall demonstrate to the Secretary the requisite ability in research and technology development and management in the project area in which the grant, contract, or cooperative agreement is being sought.

(11)(A) Title to any intellectual property arising from assistance provided under this section shall vest in a company or companies incorporated in the United States. The United States may reserve a nonexclusive, nontransferable, irrevocable paid-up license, to have practiced for or on behalf of the United States, in connection with any such intellectual property, but shall not, in the exercise of such license, publicly disclose proprietary information related to the license. Title to any such intellectual property shall not be transferred or passed, except to a company incorporated in the United States, until the expiration of the first patent obtained in connection with such intellectual property.

(B) For purposes of this paragraph, the term “intellectual property” means an invention patentable under title 35, United States Code, or any patent on such an invention.

(C) Nothing in this paragraph shall be construed to prohibit the licensing to any company of intellectual property rights arising from assistance provided under this section.

(e) The Secretary may, within 30 days after notice to Congress, suspend a company or joint venture from continued assistance under this section if the Secretary determines that the company, the country of incorporation of the company or a parent company, or the joint venture has failed to satisfy any of the criteria set forth in subsection (d)(9), and that it is in the national interest of the United States to do so.

(f) When reviewing private sector requests for awards under the Program, and when monitoring the progress of assisted re-

search projects, the Secretary and the Director shall, as appropriate, coordinate with the Secretary of Defense and other senior Federal officials to ensure cooperation and coordination in Federal technology programs and to avoid unnecessary duplication of effort. The Secretary and the Director are authorized to work with the Director of the Office of Science and Technology Policy, the Secretary of Defense, and other appropriate Federal officials to form inter-agency working groups or special project offices to coordinate Federal technology activities.

(g) In order to analyze the need for the value of joint ventures and other research projects in specific technical fields, to evaluate any proposal made by a joint venture or company requesting the Secretary's assistance, or to monitor the progress of any joint venture or any company research project which receives Federal funds under the Program, the Secretary, the Under Secretary of Commerce for Technology, and the Director may, notwithstanding any other provision of law, meet with such industry sources as they consider useful and appropriate.

(h) Up to 10 percent of the funds appropriated for carrying out this section may be used for standards development and technical activities by the Institute in support of the purposes of this section.

(i) In addition to such sums as may be authorized and appropriated to the Secretary and Director to operate the Program, the Secretary and Director also may accept funds from other Federal departments and agencies for the purpose of providing Federal funds to support awards under the Program. Any Program award which is supported with funds which originally came from other Federal departments and agencies shall be selected and carried out according to the provisions of this section.

(j) As used in this section—

(1) the term "joint venture" means any group of activities, including attempting to make, making, or performing a contract, by two or more persons for the purpose of—

(A) theoretical analysis, experimentation, or systematic study of phenomena or observable facts;

(B) the development or testing of basic engineering techniques;

(C) the extension of investigative finding or theory of a scientific or technical nature into practical application for experimental and demonstration purposes, including the experimental production and testing of models, prototypes, equipment, materials, and processes;

(D) the collection, exchange, and analysis of research information;

(E) the production of any product, process, or service;

or

(F) any combination of the purposes specified in subparagraphs (A), (B), (C), (D), and (E),

and may include the establishment and operation of facilities for the conducting of research, the conducting of such venture on a protected and proprietary basis, and the prosecuting of applications for patents and the granting of licenses for the results of such venture; and

(2) the term “United States-owned company” means a company that has majority ownership or control by individuals who are citizens of the United States.

SAVINGS PROVISION

SEC. 29. [15 U.S.C. 271 note] All rules and regulations, determinations, standards, contracts, certifications, authorizations, delegations, results and findings of investigations, or other actions duly issued, made, or taken by or pursuant to this Act, or under the authority of any other statutes which resulted in the assignment of functions or activities to the Secretary, the Department, the Director, or the Institute, as are in effect immediately before the date of enactment of this section, and not suspended by the Secretary, the Director, the Institute or the courts, shall continue in full force and effect after the date of enactment of this section until modified or rescinded.

USER FEES

SEC. 30. [15 U.S.C. 278o] The Institute shall not implement a policy of charging fees with respect to the use of Institute research facilities by research associates in the absence of express statutory authority to charge such fees.

NOTICE

SEC. 31. [15 U.S.C. 278p] (a) NOTICE OF REPROGRAMMING.—If any funds authorized for carrying out this Act are subject to a reprogramming action that requires notice to be provided to the Appropriations Committees of the House of Representatives and the Senate, notice of such action shall concurrently be provided to the Committee on Science of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate.

(b) NOTICE OF REORGANIZATION.—

(1) REQUIREMENT.—The Secretary shall provide notice to the Committees on Science and Appropriations of the House of Representatives, and the Committees on Commerce, Science, and Transportation and Appropriations of the Senate, not later than 15 days before any major reorganization of any program, project, or activity of the Institute.

(2) DEFINITION.—For purposes of this subsection, the term “major reorganization” means any reorganization of the Institute that involves the reassignment of more than 25 percent of the employees of the Institute.

SEC. 32. [15 U.S.C. 271 note] This Act may be cited as the National Institute of Standards and Technology Act.

SEC. 32.¹ [15 U.S.C. 278q] Appropriations to carry out the provisions of this Act may remain available for obligation and expenditure for such period or periods as may be specified in the Acts making such appropriations.

¹So in law. Section 8(a)(1) of the Cyber Security Research and Development Act (P.L. 107-305; 116 Stat. 2375) redesignated section 22 as section 32 and transferred it to the end of this Act. This results in there being two sections designated as section 32.

NATIONAL SCIENCE AND TECHNOLOGY POLICY, ORGANIZATION, AND PRIORITIES ACT OF 1976

AN ACT To establish a science and technology policy for the United States, to provide for scientific and technological advice and assistance to the President, to provide a comprehensive survey of ways and means for improving the Federal effort in scientific research and information handling, and in the use thereof, to amend the National Science Foundation Act of 1950, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, [42 U.S.C. 6601 note] That this Act may be cited as the "National Science and Technology Policy, Organization, and Priorities Act of 1976".

TITLE I—NATIONAL SCIENCE, ENGINEERING, AND TECHNOLOGY POLICY AND PRIORITIES

FINDINGS

SEC. 101. [42 U.S.C. 6601] (a) The Congress, recognizing the profound impact of science and technology on society, and the interrelations of scientific, technological, economic, social, political, and institutional factors, hereby finds and declares that—

(1) the general welfare, the security, the economic health and stability of the Nation, the conservation and efficient utilization of its natural and human resources, and the effective functioning of government and society require vigorous, perceptive support and employment of science and technology in achieving national objectives;

(2) the many large and complex scientific and technological factors which increasingly influence the course of national and international events require appropriate provision, involving long-range, inclusive planning as well as more immediate program development, to incorporate scientific and technological knowledge in the national decisionmaking process;

(3) the scientific and technological capabilities of the United States, when properly fostered, applied, and directed, can effectively assist in improving the quality of life, in anticipating and resolving critical and emerging international, national, and local problems, in strengthening the Nation's international economic position, and in furthering its foreign policy objectives;

(4) Federal funding for science and technology represents an investment in the future which is indispensable to sustained national progress and human betterment, and there should be a continuing national investment in science, engi-

neering, and technology which is commensurate with national needs and opportunities and the prevalent economic situation;

(5) the manpower pool of scientists, engineers, and technicians, constitutes an invaluable national resource which should be utilized to the fullest extent possible; and

(6) the Nation's capabilities for technology assessment and for technological planning and policy formulation must be strengthened at both Federal and State levels.

(b) As a consequence, the Congress finds and declares that science and technology should contribute to the following priority goals without being limited thereto:

(1) fostering leadership in the quest for international peace and progress toward human freedom, dignity, and well-being by enlarging the contributions of American scientists and engineers to the knowledge of man and his universe, by making discoveries of basic science widely available at home and abroad, and by utilizing technology in support of United States national and foreign policy goals;

(2) increasing the efficient use of essential materials and products, and generally contributing to economic opportunity, stability, and appropriate growth;

(3) assuring an adequate supply of food, materials, and energy for the Nation's needs;

(4) contributing to the national security;

(5) improving the quality of health care available to all residents of the United States;

(6) preserving, fostering, and restoring a healthful and esthetic natural environment;

(7) providing for the protection of the oceans and coastal zones, and the polar regions, and the efficient utilization of their resources;

(8) strengthening the economy and promoting full employment through useful scientific and technological innovations;

(9) increasing the quality of educational opportunities available to all residents of the United States;

(10) promoting the conservation and efficient utilization of the Nation's natural and human resources;

(11) improving the Nation's housing, transportation, and communication systems, and assuring the provision of effective public services throughout urban, suburban, and rural areas;

(12) eliminating air and water pollution, and unnecessary, unhealthful, or ineffective drugs and food additives; and

(13) advancing the exploration and peaceful uses of outer space.

DECLARATION OF POLICY

SEC. 102. [42 U.S.C. 6602] (a) PRINCIPLES.—In view of the foregoing, the Congress declares that the United States shall adhere to a national policy for science and technology which includes the following principles:

(1) The continuing development and implementation of strategies for determining and achieving the appropriate scope, level, direction, and extent of scientific and technological efforts based upon a continuous appraisal of the role of science and technology in achieving goals and formulating policies of

the United States, and reflecting the views of State and local governments and representative public groups.

(2) The enlistment of science and technology to foster a healthy economy in which the directions of growth and innovation are compatible with the prudent and frugal use of resources and with the preservation of a benign environment.

(3) The conduct of science and technology operations so as to serve domestic needs while promoting foreign policy objectives.

(4) The recruitment, education, training, retraining, and beneficial use of adequate numbers of scientists, engineers, and technologists, and the promotion by the Federal Government of the effective and efficient utilization in the national interest of the Nation's human resources in science, engineering, and technology.

(5) The development and maintenance of a solid base for science and technology in the United States, including: (A) strong participation of and cooperative relationships with State and local governments and the private sector; (B) the maintenance and strengthening of diversified scientific and technological capabilities in government, industry, and the universities, and the encouragement of independent initiatives based on such capabilities, together with elimination of needless barriers to scientific and technological innovation; (C) effective management and dissemination of scientific and technological information; (D) establishment of essential scientific, technical and industrial standards and measurement and test methods; and (E) promotion of increased public understanding of science and technology.

(6) The recognition that, as changing circumstances require periodic revision and adaptation of title I of this Act, the Federal Government is responsible for identifying and interpreting the changes in those circumstances as they occur, and for effecting subsequent changes in title I as appropriate.

(b) IMPLEMENTATION.—To implement the policy enunciated in subsection (a) of this section, the Congress declares that:

(1) The Federal Government should maintain central policy planning elements in the executive branch which assist Federal agencies in (A) identifying public problems and objectives, (B) mobilizing scientific and technological resources for essential national programs, (C) securing appropriate funding for programs so identified, (D) anticipating future concerns to which science and technology can contribute and devising strategies for the conduct of science and technology for such purposes, (E) reviewing systematically Federal science policy and programs and recommending legislative amendment thereof when needed. Such elements should include an advisory mechanism within the Executive Office of the President so that the Chief Executive may have available independent, expert judgment and assistance on policy matters which require accurate assessments of the complex scientific and technological features involved.

(2) It is a responsibility of the Federal Government to promote prompt, effective, reliable, and systematic transfer of scientific and technological information by such appropriate

methods as programs conducted by nongovernmental organizations, including industrial groups and technical societies. In particular, it is recognized as a responsibility of the Federal Government not only to coordinate and unify its own science and technology information systems, but to facilitate the close coupling of institutional scientific research with commercial application of the useful findings of science.

(3) It is further an appropriate Federal function to support scientific and technological efforts which are expected to provide results beneficial to the public but which the private sector may be unwilling or unable to support.

(4) Scientific and technological activities which may be properly supported exclusively by the Federal Government should be distinguished from those in which interests are shared with State and local governments and the private sector. Among these entities, cooperative relationships should be established which encourage the appropriate sharing of science and technology decisionmaking, funding support, and program planning and execution.

(5) The Federal Government should support and utilize engineering and its various disciplines and make maximum use of the engineering community, whenever appropriate, as an essential element in the Federal policymaking process.

(6) Comprehensive legislative support for the national science and technology effort requires that the Congress be regularly informed of the condition, health and vitality, and funding requirements of science and technology, the relation of science and technology to changing national goals, and the need for legislative modification of the Federal endeavor and structure at all levels as it relates to science and technology.

(c) PROCEDURES.—The Congress declares that, in order to expedite and facilitate the implementation of the policy enunciated in subsection (a) of this section, the following coordinate procedures are of paramount importance:

(1) Federal procurement policy should encourage the use of science and technology to foster frugal use of materials, energy, and appropriated funds; to assure quality environment; and to enhance product performance.

(2) Explicit criteria, including cost-benefit principles where practicable, should be developed to identify the kinds of applied research and technology programs that are appropriate for Federal funding support and to determine the extent of such support. Particular attention should be given to scientific and technological problems and opportunities offering promise of social advantage that are so long range, geographically widespread, or economically diffused that the Federal Government constitutes the appropriate source for undertaking their support.

(3) Federal promotion of science and technology should emphasize quality of research, recognize the singular importance of stability in scientific and technological institutions, and for urgent tasks, seek to assure timeliness of results. With particular reference to Federal support for basic research, funds should be allocated to encourage education in needed disciplines, to provide a base of scientific knowledge from which

future essential technological development can be launched, and to add to the cultural heritage of the Nation.

(4) Federal patent policies should be developed, based on uniform principles, which have as their objective the preservation of incentives for technological innovation and the application of procedures which will continue to assure the full use of beneficial technology to serve the public.

(5) Closer relationships should be encouraged among practitioners of different scientific and technological disciplines, including the physical, social, and biomedical fields.

(6) Federal departments, agencies, and instrumentalities should assure efficient management of laboratory facilities and equipment in their custody, including acquisition of effective equipment, disposal of inferior and obsolete properties, and cross-servicing to maximize the productivity of costly property of all kinds. Disposal policies should include attention to possibilities for further productive use.

(7) The full use of the contributions of science and technology to support State and local government goals should be encouraged.

(8) Formal recognition should be accorded those persons whose scientific and technological achievements have contributed significantly to the national welfare.

(9) The Federal Government should support applied scientific research, when appropriate, in proportion to the probability of its usefulness, insofar as this probability can be determined; but while maximizing the beneficial consequences of technology, the Government should act to minimize foreseeable injurious consequences.

(10) Federal departments, agencies, and instrumentalities should establish procedures to insure among them the systematic interchange of scientific data and technological findings developed under their programs.

TITLE II—OFFICE OF SCIENCE AND TECHNOLOGY POLICY

SHORT TITLE

SEC. 201. [42 U.S.C. 6611 note] This title may be cited as the "Presidential Science and Technology Advisory Organization Act of 1976".

ESTABLISHMENT

SEC. 202. [42 U.S.C. 6611] There is established in the Executive Office of the President an Office of Science and Technology Policy (hereinafter referred to in this title as the "Office").

DIRECTOR; ASSOCIATE DIRECTORS

SEC. 203. [42 U.S.C. 6612] There shall be at the head of the Office a Director who shall be appointed by the President, by and with the advice and consent of the Senate, and who shall be compensated at the rate provided for level II of the Executive Schedule in section 5313 of title 5, United States Code. The President is authorized to appoint not more than four Associate Directors, by and with the advice and consent of the Senate, who shall be com-

pensated at a rate not to exceed that provided for level III of the Executive Schedule in section 5314 of such title. Associate Directors shall perform such functions as the Director may prescribe.

FUNCTIONS

SEC. 204. [42 U.S.C. 6613] (a) The primary function of the Director is to provide, within the Executive Office of the President, advice on the scientific, engineering, and technological aspects of issues that require attention at the highest levels of Government.

(b) In addition to such other functions and activities as the President may assign, the Director shall—

(1) advise the President of scientific and technological considerations involved in areas of national concern including, but not limited to, the economy, national security, homeland security, health, foreign relations, the environment, and the technological recovery and use of resources;

(2) evaluate the scale, quality, and effectiveness of the Federal effort in science and technology and advise on appropriate actions;

(3) advise the President on scientific and technological considerations with regard to Federal budgets, assist the Office of Management and Budget with an annual review and analysis of funding proposed for research and development in budgets of all Federal agencies, and aid the Office of Management and Budget and the agencies throughout the budget development process; and

(4) assist the President in providing general leadership and coordination of the research and development programs of the Federal Government.

POLICY PLANNING, ANALYSIS, AND ADVICE

SEC. 205. [42 U.S.C. 6614] (a) The Office shall serve as a source of scientific and technological analysis and judgment for the President with respect to major policies, plans, and programs of the Federal Government. In carrying out the provisions of this section, the Director shall—

(1) seek to define coherent approaches for applying science and technology to critical and emerging national and international problems and for promoting coordination of the scientific and technological responsibilities and programs of the Federal departments and agencies in the resolution of such problems;

(2) assist and advise the President in the preparation of the Science and Technology Report, in accordance with section 209 of this Act;

(3) gather timely and authoritative information concerning significant developments and trends in science, technology, and in national priorities, both current and prospective, to analyze and interpret such information for the purpose of determining whether such developments and trends are likely to affect achievement of the priority goals of the Nation as set forth in section 101(b) of this Act;

(4) encourage the development and maintenance of an adequate data base for human resources in science, engineering,

and technology, including the development of appropriate models to forecast future manpower requirements, and assess the impact of major governmental and public programs on human resources and their utilization;

(5) initiate studies and analyses, including systems analyses and technology assessments, of alternatives available for the resolution of critical and emerging national and international problems amenable to the contributions of science and technology and, insofar as possible, determine and compare probably costs, benefits, and impacts of such alternatives;

(6) advise the President on the extent to which the various scientific and technological programs, policies, and activities of the Federal Government are likely to affect the achievement of the priority goals of the Nation as set forth in section 101(b) of this Act;

(7) provide the President with periodic reviews of Federal statutes and administrative regulations of the various departments and agencies which affect research and development activities, both internally and in relation to the private sector, or which may interfere with desirable technological innovation, together with recommendations for their elimination, reform, or updating as appropriate;

(8) develop, review, revise, and recommend criteria for determining scientific and technological activities warranting Federal support, and recommend Federal policies designed to advance (A) the development and maintenance of broadly based scientific and technological capabilities, including human resources, at all levels of government, academia, and industry, and (B) the effective application of such capabilities to national needs;

(9) assess and advise on policies for international cooperation in science and technology which will advance the national and international objectives of the United States;

(10) identify and assess emerging and future areas in which science and technology can be used effectively in addressing national and international problems;

(11) report at least once each year to the President and the Congress on the overall activities and accomplishments of the Office, pursuant to section 206 of this Act;

(12) periodically survey the nature and needs of national science and technology policy and make recommendations to the President, for review and transmission to the Congress, for the timely and appropriate revision of such policy in accordance with section 102(a)(6) of this Act; and

(13) perform such other duties and functions and make and furnish such studies and reports thereon, and recommendations with respect to matters of policy and legislation as the President may request.

(b)(1) The Director shall establish an Intergovernmental Science, Engineering, and Technology Advisory Panel (hereinafter referred to as the "Panel"), whose purpose shall be to (A) identify and define civilian problems at State, regional, and local levels which science, engineering, and technology may assist in resolving or ameliorating; (B) recommend priorities for addressing such problems; and (C) advise and assist the Director in identifying and fos-

tering policies to facilitate the transfer and utilization of research and development results so as to maximize their application to civilian needs.

(2) The Panel shall be composed of (A) the Director of the Office, or his representative; (B) at least ten members representing the interests of the States, appointed by the Director of the Office after consultation with State officials; and (C) the Director of the National Science Foundation, or his representative.

(3)(A) The Director of the Office, or his representative, shall serve as Chairman of the Panel.

(B) The Panel shall perform such functions as the Chairman may prescribe, and shall meet at the call of the Chairman.

(4) Each member of the Panel shall, while serving on business of the Panel, be entitled to receive compensation at a rate not to exceed the daily rate prescribed for GS-18 of the General Schedule under section 5332 of title 5, United States Code, including travel-time, and, while so serving away from his home or regular place of business, he may be allowed travel expenses, including per diem in lieu of subsistence in the same manner as the expenses authorized by section 5703(b) of title 5, United States Code, for persons in government service employed intermittently.

SCIENCE AND TECHNOLOGY REPORT AND OUTLOOK

SEC. 206. [42 U.S.C. 6615] (a) Notwithstanding the provisions of Reorganization Plan Number 1 of 1977, the Director shall render to the President for submission to the Congress no later than January 15 of each odd numbered year, a science and technology report and outlook (hereinafter referred to as the "report") which shall be prepared under the guidance of the Office and with the cooperation of the Director of the National Science Foundation, with appropriate assistance from other Federal departments and agencies as the Office or the Director of the National Science Foundation deems necessary. The report shall include—

(1) a statement of the President's current policy for the maintenance of the Nation's leadership in science and technology;

(2) a review of developments of national significance in science and technology;

(3) a description of major Federal decisions and actions related to science and technology that have occurred since the previous such report;

(4) a discussion of currently important national issues in which scientific or technical considerations are of major significance;

(5) a forecast of emerging issues of national significance resulting from, or identified through, scientific research or in which scientific or technical considerations are of major importance; and

(6) a discussion of opportunities for, and constraints on, the use of new and existing scientific and technological information, capabilities, and resources, including manpower resources, to make significant contributions to the achievement of Federal program objectives and national goals.

(b) The Office shall insure that the report, in the form approved by the President, is printed and made available as a public document.

ADDITIONAL FUNCTIONS OF THE DIRECTOR; ADMINISTRATIVE PROVISIONS

SEC. 207. [42 U.S.C. 6616] (a) The Director shall, in addition to the other duties and functions set forth in this title—

(1) serve as Chairman of the Federal Coordinating Council for Science, Engineering, and Technology established under title IV; and

(2) serve as a member of the Domestic Council.

(b) For the purpose of assuring the optimum contribution of science and technology to the national security, the Director, at the request of the National Security Council, shall advise the National Security Council in such matters concerning science and technology as relate to national security.

(c) In carrying out his functions under this Act, the Director is authorized to—

(1) appoint such officers and employees as he may deem necessary to perform the functions now or hereafter vested in him and to prescribe their duties;

(2) obtain services as authorized by section 3109 of title 5 of the United States Code, at rates not to exceed the rate prescribed for grade GS-18 of the General Schedule by section 5332 of title 5 of the United States Code; and

(3) enter into contracts and other arrangements for studies, analyses, and other services with public agencies and with private persons, organizations, or institutions, and make such payments as he deems necessary to carry out the provisions of this Act without legal consideration, without performance bonds, and without regard to section 3709 of the Revised Statutes (41 U.S.C. 5).

COORDINATION WITH OTHER ORGANIZATIONS

SEC. 208. [42 U.S.C. 6617] (a) In exercising his functions under this Act, the Director shall—

(1) work in close consultation and cooperation with the Domestic Council, the National Security Council, the Office of Homeland Security, the Council on Environmental Quality, the Council of Economic Advisers, the Office of Management and Budget, the National Science Board, and the Federal departments and agencies;

(2) utilize the services of consultants, establish such advisory panels, and, to the extent practicable, consult with State and local governmental agencies, with appropriate professional groups, and with such representatives of industry, the universities, agriculture, labor, consumers, conservation organizations, and such other public interest groups, organizations, and individuals as he deems advisable;

(3) hold such hearings in various parts of the Nation as he deems necessary, to determine the views of the agencies, groups, and organizations referred to in paragraph (2) of this

subsection and of the general public, concerning national needs and trends in science and technology; and

(4) utilize with their consent to the fullest extent possible the services, personnel, equipment, facilities, and information (including statistical information) of public and private agencies and organizations, and individuals, in order to avoid duplication of effort and expense, and may transfer funds made available pursuant to this Act to other Federal agencies as reimbursement for the utilization of such personnel, services, facilities, equipment, and information.

(b) Each department, agency, and instrumentality of the Executive Branch of the Government, including any independent agency, is authorized to furnish the Director such information as the Director deems necessary to carry out his functions under this Act.

(c) Upon request, the Administrator of the National Aeronautics and Space Administration is authorized to assist the Director with respect to carrying out his activities conducted under paragraph (5) of section 205(a) of this Act.

MAJOR SCIENCE AND TECHNOLOGY PROPOSALS

SEC. 209. [42 U.S.C. 6618] The Director shall identify and provide an annual report to Congress on each major multinational science and technology project, in which the United States is not a participant, which has a total estimated cost greater than \$1,000,000,000.

TITLE III—PRESIDENT'S COMMITTEE ON SCIENCE AND TECHNOLOGY

ESTABLISHMENT

SEC. 301. [42 U.S.C. 6631] The President shall establish within the Executive Office of the President a President's Committee on Science and Technology (hereinafter referred to as the "Committee").

MEMBERSHIP

SEC. 302. [42 U.S.C. 6632] (a) The Committee shall consist of—

(1) the Director of the Office of Science and Technology Policy established under title II of this Act; and

(2) not less than eight nor more than fourteen other members appointed by the President not more than sixty days after the Director has assumed office (as provided in section 203 of this Act).

(b) Members of the Committee appointed by the President pursuant to subsection (a)(2) of this section shall—

(1) be qualified and distinguished in one or more of the following areas: science, engineering, technology, information dissemination, education, management, labor, or public affairs;

(2) be capable of critically assessing the policies, priorities, programs, and activities of the Nation, with respect to the findings, policies, and purposes set forth in title I; and

(3) shall collectively constitute a balanced composition with respect to (A) fields of science and engineering, (B) academic,

industrial, and government experience, and (C) business, labor, consumer, and public interest points of view.

(c) The President shall appoint one member of the Committee to serve as Chairman and another member to serve as Vice Chairman for such periods as the President may determine.

(d) Each member of the Committee who is not an officer of the Federal Government shall, while serving on business of the Committee, be entitled to receive compensation at a rate not to exceed the daily rate prescribed for GS-18 of the General Schedule under section 5332 of title 5, United States Code, including traveltime, and while so serving away from his home or regular place of business he may be allowed travel expenses, including per diem in lieu of subsistence, in the same manner as the expenses authorized by section 5703(b) of title 5, United States Code, for persons in Government service employed intermittently.

FEDERAL SCIENCE, ENGINEERING, AND TECHNOLOGY SURVEY

SEC. 303. [42 U.S.C. 6633] (a) The Committee shall survey, examine, and analyze the overall context of the Federal science, engineering, and technology effort including missions, goals, personnel, funding, organization, facilities, and activities in general, taking adequate account of the interests of individuals and groups that may be affected by Federal scientific engineering, and technical programs, including, as appropriate, consultation with such individuals and groups. In carrying out its functions under this section, the Committee shall, among other things, consider needs for—

(1) organizational reform, including institutional realignment designed to place Federal agencies whose missions are primarily or solely devoted to scientific and technological research and development, and those agencies primarily or solely concerned with fuels, energy, and materials, within a single cabinet-level department;

(2) improvements in existing systems for handling scientific and technical information on a Government-wide basis, including consideration of the appropriate role to be played by the private sector in the dissemination of such information;

(3) improved technology assessment in the executive branch of the Federal Government;

(4) improved methods for effecting technology innovation, transfer, and use;

(5) stimulating more effective Federal-State and Federal-industry liaison and cooperation in science and technology, including the formation of Federal-State mechanisms for the mutual pursuit of this goal;

(6) reduction and simplification of Federal regulations and administrative practices and procedures which may have the effect of retarding technological innovation or opportunities for its utilization;

(7) a broader base for support of basic research;

(8) ways of strengthening the Nation's academic institutions' capabilities for research and education in science and technology;

(9) ways and means of effectively integrating scientific and technological factors into our national and international policies;

(10) technology designed to meet community and individual needs;

(11) maintenance of adequate scientific and technological manpower with regard to both quality and quantity;

(12) improved systems for planning and analysis of the Federal science and technology programs; and

(13) long-range study, analysis, and planning in regard to the application of science and technology to major national problems or concerns.

(b)(1) Within twelve months from the time the Committee is activated in accordance with section 302(a) of this Act, the Committee shall issue an interim report of its activities and operations to date. Not more than twenty-four months from the time the Committee is activated, the Committee shall submit a final report of its activities, findings, conclusions, and recommendations, including such supporting data and material as may be necessary, to the President.

(2) The President, within sixty days of receipt thereof, shall transmit each such report to each House of Congress together with such comments, observations, and recommendations thereon as he deems appropriate.

CONTINUATION OF COMMITTEE

SEC. 304. [42 U.S.C. 6634] (a) Ninety days after submission of the final report prepared under section 303 of this Act, the Committee shall cease to exist, unless the President, before the expiration of the ninety-day period, makes a determination that it is advantageous for the Committee to continue in being.

(b) If the President determines that it is advantageous for the Committee to continue in being, (1) the Committee shall exercise such functions as are prescribed by the President; and (2) the members of the Committee shall serve at the pleasure of the President.

STAFF AND CONSULTANT SUPPORT

SEC. 305. [42 U.S.C. 6635] (a) In the performance of its functions under sections 303 and 304 of this Act, the Committee is authorized—

(1) to select, appoint, employ, and fix the compensation of such specialists and other experts as may be necessary for the carrying out of its duties and functions, and to select, appoint, and employ, subject to the civil service laws, such other officers and employees as may be necessary for carrying out its duties and functions; and

(2) to provide for participation of such civilian and military personnel as may be detailed to the Committee pursuant to subsection (b) of this section for carrying out the functions of the Committee.

(b) Upon request of the Committee, the head of any Federal department, agency, or instrumentality is authorized (1) to furnish to the Committee such information as may be necessary for carrying out its functions and as may be available to or procurable by such department, agency, or instrumentality, and (2) to detail to temporary duty with the Committee on a reimbursable basis such personnel within his administrative jurisdiction as it may need or be-

lieve to be useful for carrying out its functions. Each such detail shall be without loss of seniority, pay, or other employee status, to civilian employees so detailed, and without loss of status, rank, office, or grade, or of any emolument, perquisite, right, privilege, or benefit incident thereto to military personnel so detailed. Each such detail shall be made pursuant to an agreement between the Chairman and the head of the relevant department, agency, or instrumentality, and shall be in accordance with the provisions of subchapter III of chapter 33, title 5, United States Code.

TITLE IV—FEDERAL COORDINATING COUNCIL FOR SCIENCE, ENGINEERING, AND TECHNOLOGY

ESTABLISHMENT AND FUNCTIONS

SEC. 401. [42 U.S.C. 6651] (a) There is established the Federal Coordinating Council for Science, Engineering, and Technology (hereinafter referred to as the "Council").

(b) The Council shall be composed of the Director of the Office of Science and Technology Policy and one representative of each of the following Federal agencies: Department of Agriculture, Department of Commerce, Department of Defense, Department of Health, Education, and Welfare, Department of Housing and Urban Development, Department of the Interior, Department of State, Department of Transportation, Department of Veterans Affairs, National Aeronautics and Space Administration, National Science Foundation, Environmental Protection Agency, and Energy Research and Development Administration. Each such representative shall be an official of policy rank designated by the head of the Federal agency concerned.

(c) The Director of the Office of Science and Technology Policy shall serve as Chairman of the Council. The Chairman may designate another member of the Council to act temporarily in the Chairman's absence as Chairman.

(d) The Chairman may (1) request the head of any Federal agency not named in subsection (b) of this section to designate a representative to participate in meetings or parts of meetings of the Council concerned with matters of substantial interest to such agency, and (2) invite other persons to attend meetings of the Council.

(e) The Council shall consider problems and developments in the fields of science, engineering, and technology and related activities affecting more than one Federal agency, and shall recommend policies and other measures designed to—

(1) provide more effective planning and administration of Federal scientific, engineering, and technological programs,

(2) identify research needs including areas requiring additional emphasis,

(3) achieve more effective utilization of the scientific, engineering, and technological resources and facilities of Federal agencies, including the elimination of unwarranted duplication, and

(4) further international cooperation in science, engineering, and technology.

(f) The Council shall perform such other related advisory duties as shall be assigned by the President or by the Chairman.

(g) For the purpose of carrying out the provisions of this section, each Federal agency represented on the Council shall furnish necessary assistance to the Council. Such assistance may include—

(1) detailing employees to the Council to perform such functions, consistent with the purposes of this section, as the Chairman may assign to them, and

(2) undertaking, upon request of the Chairman, such special studies for the Council as come within the functions herein assigned.

(h) For the purpose of conducting studies and making reports as directed by the Chairman, standing subcommittees and panels of the Council may be established.

ABOLITION OF FEDERAL COUNCIL FOR SCIENCE AND TECHNOLOGY

SEC. 402. [42 U.S.C. 1862 note] The Federal Council for Science and Technology, established pursuant to Executive Order 10807, issued March 13, 1959, as amended by Executive Order 11381, issued November 8, 1967, is hereby abolished.

TITLE V—GENERAL PROVISIONS

AUTHORIZATION

SEC. 501. [42 U.S.C. 6671] (a) For the purpose of carrying out title II of this Act, there are authorized to be appropriated—

(1) \$750,000 for the fiscal year ending June 30, 1976;

(2) \$500,000 for the period beginning July 1, 1976, and ending September 30, 1976;

(3) \$3,000,000 for the fiscal year ending September 30, 1977; and

(4) such sums as may be necessary for each of the succeeding fiscal years.

(b) For the purpose of carrying out title III of this Act, there are authorized to be appropriated—

(1) \$750,000 for the fiscal year ending June 30, 1976;

(2) \$500,000 for the period beginning July 1, 1976, and ending September 30, 1976;

(3) \$1,000,000 for the fiscal year ending September 30, 1977; and

(4) such sums as may be necessary for each of the succeeding fiscal years.

STATUTORY REPEAL

SEC. 502. Sections 1, 2, 3, and 4 of Reorganization Plan Numbered 2 of 1962 (76 Stat. 1253) and section 2 of Reorganization Plan Numbered 1 of 1973 (87 Stat. 1089) are repealed.

AMENDMENT

SEC. 503. Section 4 of the National Science Foundation Act of 1950 (42 U.S.C. 1863) is amended by striking out subsection (g) and by redesignating subsections (h), (i), and (j), and all references thereto, as subsections (g), (h), and (i), respectively.

TITLE VI—NATIONAL CRITICAL TECHNOLOGIES PANEL ¹

¹Section 605 of this Act provides that this title expires effective on December 31, 2000.

NATIONAL TECHNICAL INFORMATION ACT OF 1988¹

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**TITLE II—TECHNOLOGY ADMINISTRATION
IN THE DEPARTMENT OF COMMERCE**

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**Subtitle B—National Technical
Information Service**

SEC. 211. [15 U.S.C. 3701 note] SHORT TITLE.

This subtitle may be cited as the “National Technical Information Act of 1988”.

SEC. 212. [15 U.S.C. 3704b] NATIONAL TECHNICAL INFORMATION SERVICE.

(a) **POWERS.**—(1) The Secretary of Commerce, acting through the Director of the National Technical Information Service (hereafter in this subtitle referred to as the “Director”) is authorized to do the following:

(A) Enter into such contracts, cooperative agreements, joint ventures, and other transactions, in accordance with all relevant provisions of Federal law applicable to such contracts and agreements, and under reasonable terms and conditions, as may be necessary in the conduct of the business of the National Technical Information Service (hereafter in this subtitle referred to as the “Service”).

(B) In addition to the authority regarding fees contained in section 2 of the Act entitled “An Act to provide for the dissemination of technological, scientific, and engineering information to American business and industry, and for other purposes” enacted September 9, 1950 (15 U.S.C. 1152), retain and, subject to appropriations Acts, utilize its net revenues to the extent necessary to implement the plan submitted under subsection (f)(3)(D).

(C) Enter into contracts for the performance of part or all of the functions performed by the Promotion Division of the Service prior to the date of the enactment of this Act. The de-

¹This subtitle was enacted as subtitle B of title II of Public Law 100-519.

tails of any such contract, and a statement of its effect on the operations and personnel of the Service, shall be provided to the appropriate committees of the Congress 30 days in advance of the execution of such contract.

(D) Employ such personnel as may be necessary to conduct the business of the Service.

(E) For the period of October 1, 1991 through September 30, 1992, only, retain and use all earned and unearned monies heretofore or hereafter received, including receipts, revenues, and advanced payments and deposits, to fund all obligations and expenses, including inventories and capital equipment.

An increase or decrease in the personnel of the Service shall not affect or be affected by any ceilings on the number or grade of personnel.

(2) The functions and activities of the Service specified in subsection (e) (1) through (6) are permanent Federal functions to be carried out by the Secretary through the Service and its employees, and shall not be transferred from the Service, by contract or otherwise, to the private sector on a permanent or temporary basis without express approval of the Congress. Functions or activities—

(A) for the procurement of supplies, materials, and equipment by the Service;

(B) referred to in paragraph (1)(C); or

(C) to be performed through joint ventures or cooperative agreements which do not result in a reduction in the Federal workforce of the affected programs of the service,

shall not be considered functions or activities for purposes of this paragraph.

(3) For the purposes of this subsection, the term “net revenues” means the excess of revenues and receipts from any source, other than royalties and other income described in section 13(a)(4) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710c(a)(4)), over operating expenses.

(4) Section 11(h) of the Stevenson-Wydler Technology Innovation Act of 1980 is repealed.

(b) **DIRECTOR OF THE SERVICE.**—The management of the Service shall be vested in a Director who shall report to the Under Secretary of Commerce for Technology and the Secretary of Commerce.

(c) **ADVISORY BOARD.**—(1) There is established the Advisory Board of the National Technical Information Service, which shall be composed of a chairman and four other members appointed by the Secretary.

(2) In appointing members of the Advisory Board the Secretary shall solicit recommendations from the major users and beneficiaries of the Service’s activities and shall select individuals experienced in providing or utilizing technical information.

(3) The Advisory Board shall review the general policies and operations of the Service, including policies in connection with fees and charges for its services, and shall advise the Secretary and the Director with respect thereto.

(4) The Advisory Board shall meet at the call of the Secretary, but not less often than once each six months.

(d) **AUDITS.**—The Secretary of Commerce shall provide for annual independent audits of the Service’s financial statements be-

ginning with fiscal year 1988, to be conducted in accordance with generally accepted accounting principles.

(e) FUNCTIONS.—The Secretary of Commerce, acting through the Service, shall—

(1) establish and maintain a permanent repository of non-classified scientific, technical, and engineering information;

(2) cooperate and coordinate its operations with other Government scientific, technical, and engineering information programs;

(3) make selected bibliographic information products available in a timely manner to depository libraries as part of the Depository Library Program of the Government Printing Office;

(4) in conjunction with the private sector as appropriate, collect, translate into English, and disseminate unclassified foreign scientific, technical, and engineering information;

(5) implement new methods or media for the dissemination of scientific, technical, and engineering information, including producing and disseminating information products in electronic format; and

(6) carry out the functions and activities of the Secretary under the Act entitled "An Act to provide for the dissemination of technological, scientific, and engineering information to American business and industry, and for other purposes" enacted September 9, 1950, and the functions and activities of the Secretary performed through the National Technical Information Service as of the date of enactment of this Act under the Stevenson-Wydler Technology Innovation Act of 1980.

(f) NOTIFICATION OF CONGRESS.—(1) The Secretary of Commerce and the Director shall keep the appropriate committees of Congress fully and currently informed about all activities related to the carrying out of the functions of the Service, including changes in fee policies.

(2) Within 90 days after the date of the enactment of this Act, the Secretary of Commerce shall submit to the Congress a report on the current fee structure of the Service, including an explanation of the basis for the fees, taking into consideration all applicable costs, and the adequacy of the fees, along with reasons for the declining sales at the Service of scientific, technical, and engineering publications. Such report shall explain any actions planned or taken to increase such sales at reasonable fees.

(3) The Secretary shall submit an annual report to the Congress which shall—

(A) summarize the operations of the Service during the preceding year, including financial details and staff levels broken down by major activities;

(B) detail the operating plan of the Service, including specific expense and staff needs, for the upcoming year;

(C) set forth details of modernization progress made in the preceding year;

(D) describe the long-term modernization plans of the Service; and

(E) include the results of the most recent annual audit carried out under subsection (d).

(4) The Secretary shall also give the Congress detailed advance notice of not less than 30 calendar days of—

(A) any proposed reduction-in-force;

(B) any joint venture or cooperative agreement which involves a financial incentive to the joint venturer or contractor; and

(C) any change in the operating plan submitted under paragraph (3)(B) which would result in a variation from such plan with respect to expense levels of more than 10 percent.

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**NATIONAL TECHNOLOGY TRANSFER AND
ADVANCEMENT ACT OF 1995**

AN ACT To amend the Stevenson-Wydler Technology Innovation Act of 1980 with respect to inventions made under cooperative research and development agreements, and for other purposes.

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

SECTION 1. [15 U.S.C. 3701 note] SHORT TITLE.

This Act may be cited as the "National Technology Transfer and Advancement Act of 1995".

SEC. 2. [15 U.S.C. 3701 note] FINDINGS.

The Congress finds the following:

(1) Bringing technology and industrial innovation to the marketplace is central to the economic, environmental, and social well-being of the people of the United States.

(2) The Federal Government can help United States business to speed the development of new products and processes by entering into cooperative research and development agreements which make available the assistance of Federal laboratories to the private sector, but the commercialization of technology and industrial innovation in the United States depends upon actions by business.

(3) The commercialization of technology and industrial innovation in the United States will be enhanced if companies, in return for reasonable compensation to the Federal Government, can more easily obtain exclusive licenses to inventions which develop as a result of cooperative research with scientists employed by Federal laboratories.

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SEC. 12. STANDARDS CONFORMITY.

(a) * * *

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(d) [15 U.S.C. 272 note] UTILIZATION OF CONSENSUS TECHNICAL STANDARDS BY FEDERAL AGENCIES; REPORTS.—

(1) IN GENERAL.—Except as provided in paragraph (3) of this subsection, all Federal agencies and departments shall use technical standards that are developed or adopted by voluntary consensus standards bodies, using such technical standards as a means to carry out policy objectives or activities determined by the agencies and departments.

(2) CONSULTATION; PARTICIPATION.—In carrying out paragraph (1) of this subsection, Federal agencies and departments

shall consult with voluntary, private sector, consensus standards bodies and shall, when such participation is in the public interest and is compatible with agency and departmental missions, authorities, priorities, and budget resources, participate with such bodies in the development of technical standards.

(3) EXCEPTION.—If compliance with paragraph (1) of this subsection is inconsistent with applicable law or otherwise impractical, a Federal agency or department may elect to use technical standards that are not developed or adopted by voluntary consensus standards bodies if the head of each such agency or department transmits to the Office of Management and Budget an explanation of the reasons for using such standards. Each year, beginning with fiscal year 1997, the Office of Management and Budget shall transmit to Congress and its committees a report summarizing all explanations received in the preceding year under this paragraph.

(4) EXPENSES OF GOVERNMENT PERSONNEL.—Section 5946 of title 5, United States Code, shall not apply with respect to any activity of an employee of a Federal agency or department that is determined by the head of that agency or department as being an activity undertaken in carrying out this subsection.

(5) DEFINITION OF TECHNICAL STANDARDS.—As used in this subsection, the term “technical standards” means performance-based or design-specific technical specifications and related management systems practices.

SEC. 13. SENSE OF CONGRESS.

It is the sense of the Congress that the Malcolm Baldrige National Quality Award program offers substantial benefits to United States industry, and that all funds appropriated for such program should be spent in support of the goals of the program.

SMALL BUSINESS INNOVATION RESEARCH AND TECHNOLOGY TRANSFER

(SECTION 9 OF THE SMALL BUSINESS ACT)

SEC. 9. [15 U.S.C. 638] (a) Research and development are major factors in the growth and progress of industry and the national economy. The expense of carrying on research and development programs is beyond the means of many small-business concerns, and such concerns are handicapped in obtaining the benefits of research and development programs conducted at Government expense. These small-business concerns are thereby placed at a competitive disadvantage. This weakens the competitive free enterprise system and prevents the orderly development of the national economy. It is the policy of the Congress that assistance be given to small-business concerns to enable them to undertake and to obtain the benefits of research and development in order to maintain and strengthen the competitive free enterprise system and the national economy.

(b) It shall be the duty of the Administration, and it is hereby empowered—

(1) to assist small-business concerns to obtain Government contracts for research and development;

(2) to assist small-business concerns to obtain the benefits of research and development performed under Government contracts or at Government expense;

(3) to provide technical assistance to small-business concerns to accomplish the purposes of this section; and¹

(4) to develop and maintain a source file and an information program to assure each qualified and interested small business concern the opportunity to participate in Federal agency small business innovation research programs and small business technology transfer programs;

(5) to coordinate with participating agencies a schedule for release of SBIR and STTR solicitations, and to prepare a master release schedule so as to maximize small business' opportunities to respond to solicitations;

(6) to independently survey and monitor the operation of SBIR and STTR programs within participating Federal agencies; and

(7) to report not less than annually to the Committee on Small Business of the Senate, and to the Committee on Science and the Committee on Small Business of the House of Representatives, on the SBIR and STTR programs of the Federal agencies and the Administration's information and monitoring efforts related to the SBIR and STTR programs, including the data on output and outcomes collected pursuant to subsections

¹ So in original. The word "and" probably should not appear.

(g)(10), (o)(9), and (o)(15), the number of proposals received from, and the number and total amount of awards to, HUBZone small business concerns under each of the SBIR and STTR programs, and a description of the extent to which Federal agencies are providing in a timely manner information needed to maintain the database described in subsection (k).

(c) The Administration is authorized to consult and cooperate with all Government agencies and to make studies and recommendations to such agencies, and such agencies are authorized and directed to cooperate with the Administration in order to carry out and to accomplish the purposes of this section.

(d)(1) The Administrator is authorized to consult with representatives of small-business concerns with a view to assisting and encouraging such firms to undertake joint programs for research and development carried out through such corporate or other mechanism as may be most appropriate for the purpose. Such joint programs may, among other things, include the following purposes:

(A) to construct, acquire, or establish laboratories and other facilities for the conduct of research;

(B) to undertake and utilize applied research;

(C) to collect research information related to a particular industry and disseminate it to participating members;

(D) to conduct applied research on a protected, proprietary, and contractual basis with member or nonmember firms, Government agencies, and others;

(E) to prosecute applications for patents and render patent services for participating members; and

(F) to negotiate and grant licenses under patents held under the point program, and to establish corporations designed to exploit particular patents obtained by it.

(2) The Administrator may, after consultation with the Attorney General and the Chairman of the Federal Trade Commission, and with the prior written approval of the Attorney General, approve any agreement between small-business firms providing for a joint program of research and development, if the Administrator finds that the joint program proposed will maintain and strengthen the free enterprise system and the economy of the Nation. The Administrator or the Attorney General may at any time withdraw his approval of the agreement and the joint program of research and development covered thereby, if he finds that the agreement or the joint program carried on under it is no longer in the best interests of the competitive free enterprise system and the economy of the Nation. A copy of the statement of any such finding and approval intended to be within the coverage of this subsection, and a copy of any modification or withdrawal of approval, shall be published in the Federal Register. The authority conferred by this subsection on the Administrator shall not be delegated by him.

(3) No act or omission to act pursuant to and within the scope of any joint program for research and development, under an agreement approved by the Administrator under this subsection, shall be construed to be within the prohibitions of the antitrust laws or the Federal Trade Commission Act. Upon publication in the Federal Register of the notice of withdrawal of his approval of the agreement granted under this subsection, either by the Adminis-

trator or by the Attorney General, the provisions of this subsection shall not apply to any subsequent act or omission to act by reason of such agreement or approval.

(e) For the purpose of this section—

(1) the term “extramural budget” means the sum of the total obligations minus amounts obligated for such activities by employees of the agency in or through Government-owned, Government-operated facilities, except that for the Agency for International Development it shall not include amounts obligated solely for general institutional support of international research centers or for grants to foreign countries, and except that for the Department of Energy it shall not include amounts obligated for atomic energy defense programs for weapons and weapons-related activities or for naval reactor programs¹;

(2) the term “Federal agency” means an executive agency as defined in section 105 of title 5, United States Code, or a military department as defined in section 102 of such title, except that it does not include any agency within the Intelligence Community (as the term is defined in section 3.4(f) of Executive Order 12333 or its successor orders);

(3) the term “funding agreement” means any contract, grant, or cooperative agreement entered into between any Federal agency and any small business for the performance of experimental, developmental, or research work funded in whole or in part by the Federal Government;

(4) the term “Small Business Innovation Research Program” or “SBIR” means a program under which a portion of a Federal agency’s research or research and development effort is reserved for award to small business concerns through a uniform process having—

(A) a first phase for determining, insofar as possible, the scientific and technical merit and feasibility of ideas that appear to have commercial potential, as described in subparagraph (B), submitted pursuant to SBIR program solicitations;

(B) a second phase, to further develop proposals which meet particular program needs, in which awards shall be made based on the scientific and technical merit and feasibility of the proposals, as evidenced by the first phase, considering, among other things, the proposal’s commercial potential, as evidenced by—

(i) the small business concern’s record of successfully commercializing SBIR or other research;

(ii) the existence of second phase funding commitments from private sector or non-SBIR funding sources;

(iii) the existence of third phase, follow-on commitments for the subject of the research; and

(iv) the presence of other indicators of the commercial potential of the idea; and

(C) where appropriate, a third phase—

¹Amendment made by section 103(c) of the Small Business Research and Development Enhancement Act of 1992 is unexecutable. This is probably a result of an amendment made by P.L. 102-484 which added text similar to this unexecutable amendment.

(i) in which commercial applications of SBIR-funded research or research and development are funded by non-Federal sources of capital or, for products or services intended for use by the Federal Government, by follow-on non-SBIR Federal funding awards; or

(ii) for which awards from non-SBIR Federal funding sources are used for the continuation of research or research and development that has been competitively selected using peer review or scientific review criteria;

(5) the term “research” or “research and development” means any activity which is (A) a systematic, intensive study directed toward greater knowledge or understanding of the subject studied; (B) a systematic study directed specifically toward applying new knowledge to meet a recognized need; or (C) a systematic application of knowledge toward the production of useful materials, devices, and systems or methods, including design, development, and improvement of prototypes and new processes to meet specific requirements;

(6) the term “Small Business Technology Transfer Program” or “STTR” means a program under which a portion of a Federal agency’s extramural research or research and development effort is reserved for award to small business concerns for cooperative research and development through a uniform process having—

(A) a first phase, to determine, to the extent possible, the scientific, technical, and commercial merit and feasibility of ideas submitted pursuant to STTR program solicitations;

(B) a second phase, to further develop proposed ideas to meet particular program needs, in which awards shall be made based on the scientific, technical, and commercial merit and feasibility of the idea, as evidenced by the first phase and by other relevant information; and

(C) where appropriate, a third phase—

(i) in which commercial applications of STTR-funded research or research and development are funded by non-Federal sources of capital or, for products or services intended for use by the Federal Government, by follow-on non-STTR Federal funding awards; and

(ii) for which awards from non-STTR Federal funding sources are used for the continuation of research or research and development that has been competitively selected using peer review or scientific review criteria;

(7) the term “cooperative research and development” means research or research and development conducted jointly by a small business concern and a research institution in which not less than 40 percent of the work is performed by the small business concern, and not less than 30 percent of the work is performed by the research institution; and

(8) the term “research institution” means a nonprofit institution, as defined in section 4(5) of the Stevenson-Wydler Technology Innovation Act of 1980, and includes federally funded

research and development centers, as identified by the National Scientific Foundation in accordance with the governmentwide Federal Acquisition Regulation issued in accordance with section 35(c)(1) of the Office of Federal Procurement Policy Act (or any successor regulation thereto).

(f) **FEDERAL AGENCY EXPENDITURES FOR THE SBIR PROGRAM.**—

(1) **REQUIRED EXPENDITURE AMOUNTS.**—Each Federal agency which has an extramural budget for research or research and development in excess of \$100,000,000 for fiscal year 1992, or any fiscal year thereafter, shall expend with small business concerns—

(A) not less than 1.5 percent of such budget in each of fiscal years 1993 and 1994;

(B) not less than 2.0 percent of such budget in each of fiscal years 1995 and 1996; and

(C) not less than 2.5 percent of such budget in each fiscal year thereafter,

specifically in connection with SBIR programs which meet the requirements of this section, policy directives, and regulations issued under this section.

(2) **LIMITATIONS.**—A Federal agency shall not—

(A) use any of its SBIR budget established pursuant to paragraph (1) for the purpose of funding administrative costs of the program, including costs associated with salaries and expenses; or

(B) make available for the purpose of meeting the requirements of paragraph (1) an amount of its extramural budget for basic research which exceeds the percentages specified in paragraph (1).

(3) **EXCLUSION OF CERTAIN FUNDING AGREEMENTS.**—Funding agreements with small business concerns for research or research and development which result from competitive or single source selections other than an SBIR program shall not be considered to meet any portion of the percentage requirements of paragraph (1).

(g) Each Federal agency required by subsection (f) to establish a small business innovation research program shall, in accordance with this Act and regulations issued hereunder—

(1) unilaterally determine categories of projects to be in its SBIR program;

(2) issue small business innovation research solicitations in accordance with a schedule determined cooperatively with the Small Business Administration;

(3) unilaterally determine research topics within the agency's SBIR solicitations, giving special consideration to broad research topics and to topics that further 1 or more critical technologies, as identified by—

(A) the National Critical Technologies Panel (or its successor) in the 1991 report required under section 603 of the National Science and Technology Policy, Organization, and Priorities Act of 1976, and in subsequent reports issued under that authority; or

(B) the Secretary of Defense, in the 1992 report issued in accordance with section 2522 of title 10, United States

Code, and in subsequent reports issued under that authority;

(4) unilaterally receive and evaluate proposals resulting from SBIR proposals;

(5) subject to subsection (l), unilaterally select awardees for the SBIR funding agreements and inform each awardee under such an agreement, to the extent possible, of the expenses of the awardee that will be allowable under the funding agreement;

(6) administer its own SBIR funding agreements (or delegate such administration to another agency);

(7) make payments to recipients of SBIR funding agreements on the basis of progress toward or completion of the funding agreement requirements and, in all cases, make payment to recipients under such agreements in full, subject to audit, on or before the last day of the 12-month period beginning on the date of completion of such requirements;

(8) make an annual report on the SBIR program to the Small Business Administration and the Office of Science and Technology Policy;

(9) include, as part of its annual performance plan as required by subsections (a) and (b) of section 1115 of title 31, United States Code, a section on its SBIR program, and shall submit such section to the Committee on Small Business of the Senate, and the Committee on Science and the Committee on Small Business of the House of Representatives; and

(10) collect, and maintain in a common format in accordance with subsection (v), such information from awardees as is necessary to assess the SBIR program, including information necessary to maintain the database described in subsection (k).

(h) In addition to the requirements of subsection (f), each Federal agency which has a budget for research or research and development in excess of \$20,000,000 for any fiscal year beginning with fiscal year 1983 or subsequent fiscal year shall establish goals specifically for funding agreements for research or research and development to small business concerns, and no goal established under this subsection shall be less than the percentage of the agency's research or research and development budget expended under funding agreements with small business concerns in the immediately preceding fiscal year.

(i) ANNUAL REPORTING.—

(1) IN GENERAL.—Each Federal agency required by this section to have an SBIR program or to establish goals shall report annually to the Small Business Administration the number of awards pursuant to grants, contracts, or cooperative agreements over \$10,000 in amount and the dollar value of all such awards, identifying SBIR awards and comparing the number and amount of such awards with awards to other than small business concerns.

(2) CALCULATION OF EXTRAMURAL BUDGET.—

(A) METHODOLOGY.—Not later than 4 months after the date of the enactment of each appropriations Act for a Federal agency required by this section to have an SBIR program, the Federal agency shall submit to the Administrator a report, which shall include a description of the

methodology used for calculating the amount of the extramural budget of that Federal agency.

(B) ADMINISTRATOR'S ANALYSIS.—The Administrator shall include an analysis of the methodology received from each Federal agency referred to in subparagraph (A) in the report required by subsection (b)(7).

(j)(1) POLICY DIRECTIVES.—The Small Business Administration, after consultation with the Administrator of the Office of Federal Procurement Policy, the Director of the Office of Science and Technology Policy, and the Intergovernmental Affairs Division of the Office of Management and Budget, shall, within one hundred and twenty days of the enactment of the Small Business Innovation Development Act of 1982, issue policy directives for the general conduct of the SBIR programs within the Federal Government, including providing for—

(A) simplified, standardized, and timely SBIR solicitations;

(B) a simplified, standardized funding process which provides for (i) the timely receipt and review of proposals; (ii) outside peer review for at least phase two proposals, if appropriate; (iii) protection of proprietary information provided in proposals; (iv) selection of awardees; (v) retention of rights in data generated in the performance of the contract by the small business concern; (vi) transfer of title to property provided by the agency to the small business concern if such a transfer would be more cost effective than recovery of the property by the agency; (vii) cost sharing; and (viii) cost principles and payment schedules;

(C) exemptions from the regulations under paragraph (2) if national security or intelligence functions clearly would be jeopardized;

(D) minimizing regulatory burden associated with participation in the SBIR program for the small business concern which will stimulate the cost-effective conduct of Federal research and development and the likelihood of commercialization of the results of research and development conducted under the SBIR program;

(E) simplified, standardized, and timely annual report on the SBIR program to the Small Business Administration and the Office of Science and Technology Policy;

(F) standardized and orderly withdrawal from program participation by an agency having a SBIR program; at the discretion of the Administration, such directives may require a phased withdrawal over a period of time sufficient in duration to minimize any adverse impact on small business concerns; and

(G) the voluntary participation in a SBIR program by a Federal agency not required to establish such a program pursuant to subsection (f).

(2)¹ MODIFICATIONS.—Not later than 90 days after the date of enactment of the Small Business Research and Development Enhancement Act of 1992, the Administrator shall

¹Margin so in law.

modify the policy directives issued pursuant to this subsection to provide for—

(A) retention by a small business concern of the rights to data generated by the concern in the performance of an SBIR award for a period of not less than 4 years;

(B) continued use by a small business concern participating in the third phase of the SBIR program, as a directed bailment, of any property transferred by a Federal agency to the small business concern in the second phase of an SBIR program for a period of not less than 2 years, beginning on the initial date of the concern's participation in the third phase of such program;

(C) procedures to ensure, to the extent practicable, that an agency which intends to pursue research, development, or production of a technology developed by a small business concern under an SBIR program enters into follow-on, non-SBIR funding agreements with the small business concern for such research, development, or production;

(D) an increase to \$100,000 in the amount of funds which an agency may award in the first phase of an SBIR program, and to \$750,000 in the second phase of an SBIR program, and an adjustment of such amounts once every 5 years to reflect economic adjustments and programmatic considerations;

(E) a process for notifying the participating SBIR agencies and potential SBIR participants of the 1991, 1992, and the current critical technologies, as identified—

(i) by the National Critical Technologies Panel (or its successor), in accordance with section 603 of the National Science and Technology Policy, Organization, and Priorities Act of 1976; or

(ii) by the Secretary of Defense, in accordance with section 2522 of title 10, United States Code;

(F) enhanced outreach efforts to increase the participation of socially and economically disadvantaged small business concerns, as defined in section 8(a)(4), and the participation of small businesses that are 51 percent owned and controlled by women in technological innovation and in SBIR programs, including the third phase of such programs, and the collection of data to document such participation;

(G) technical and programmatic guidance to encourage agencies to develop gap-funding programs to address the delay between an award for the first phase of an SBIR program and the application for and extension of an award for the second phase of such program;

(H) procedures to ensure that a small business concern that submits a proposal for a funding agreement for the first phase of an SBIR program and that has received more than 15 second phase SBIR awards during the preceding 5 fiscal years is able to demonstrate the extent to which it was able to secure third phase funding to develop concepts resulting from previous second phase SBIR awards; and

(I) procedures to ensure that agencies participating in the SBIR program retain the information submitted under subparagraph (H) at least until the General Accounting Office submits the report required under section 105 of the Small Business Research and Development Enhancement Act of 1992.

(3)¹ **ADDITIONAL MODIFICATIONS.**—Not later than 120 days after the date of the enactment of the Small Business Innovation Research Program Reauthorization Act of 2000, the Administrator shall modify the policy directives issued pursuant to this subsection—

(A) to clarify that the rights provided for under paragraph (2)(A) apply to all Federal funding awards under this section, including the first phase (as described in subsection (e)(4)(A)), the second phase (as described in subsection (e)(4)(B)), and the third phase (as described in subsection (e)(4)(C));

(B) to provide for the requirement of a succinct commercialization plan with each application for a second phase award that is moving toward commercialization;

(C) to require agencies to report to the Administration, not less frequently than annually, all instances in which an agency pursued research, development, or production of a technology developed by a small business concern using an award made under the SBIR program of that agency, and determined that it was not practicable to enter into a follow-on non-SBIR program funding agreement with the small business concern, which report shall include, at a minimum—

(i) the reasons why the follow-on funding agreement with the small business concern was not practicable;

(ii) the identity of the entity with which the agency contracted to perform the research, development, or production; and

(iii) a description of the type of funding agreement under which the research, development, or production was obtained; and

(D) to implement subsection (v), including establishing standardized procedures for the provision of information pursuant to subsection (k)(3).

(k) **DATABASE.**—

(1) **PUBLIC DATABASE.**—Not later than 180 days after the date of the enactment of the Small Business Innovation Research Program Reauthorization Act of 2000, the Administrator shall develop, maintain, and make available to the public a searchable, up-to-date, electronic database that includes—

(A) the name, size, location, and an identifying number assigned by the Administrator, of each small business concern that has received a first phase or second phase SBIR or STTR award from a Federal agency;

¹ Margin so in law.

(B) a description of each first phase or second phase SBIR or STTR award received by that small business concern, including—

(i) an abstract of the project funded by the award, excluding any proprietary information so identified by the small business concern;

(ii) the Federal agency making the award; and

(iii) the date and amount of the award;

(C) an identification of any business concern or subsidiary established for the commercial application of a product or service for which an SBIR or STTR award is made;

(D) information regarding mentors and Mentoring Networks, as required by section 35(d); and

(E) with respect to assistance under the STTR program only—

(i) whether the small business concern or the research institution initiated their collaboration on each assisted STTR project;

(ii) whether the small business concern or the research institution originated any technology relating to the assisted STTR project;

(iii) the length of time it took to negotiate any licensing agreement between the small business concern and the research institution under each assisted STTR project; and

(iv) how the proceeds from commercialization, marketing, or sale of technology resulting from each assisted STTR project were allocated (by percentage) between the small business concern and the research institution.

(2) GOVERNMENT DATABASE.—Not later than 180 days after the date of the enactment of the Small Business Innovation Research Program Reauthorization Act of 2000, the Administrator, in consultation with Federal agencies required to have an SBIR program pursuant to subsection (f)(1) or an STTR program pursuant to subsection (n)(1), shall develop and maintain a database to be used exclusively for SBIR and STTR program evaluation that—

(A) contains for each second phase award made by a Federal agency—

(i) information collected in accordance with paragraph (3) on revenue from the sale of new products or services resulting from the research conducted under the award;

(ii) information collected in accordance with paragraph (3) on additional investment from any source, other than first phase or second phase SBIR or STTR awards, to further the research and development conducted under the award; and

(iii) any other information received in connection with the award that the Administrator, in conjunction with the SBIR and STTR program managers of Federal agencies, considers relevant and appropriate;

(B) includes any narrative information that a small business concern receiving a second phase award voluntarily submits to further describe the outputs and outcomes of its awards;

(C) includes for each applicant for a first phase or second phase award that does not receive such an award—

- (i) the name, size, and location, and an identifying number assigned by the Administration;
- (ii) an abstract of the project; and
- (iii) the Federal agency to which the application was made;

(D) includes any other data collected by or available to any Federal agency that such agency considers may be useful for SBIR or STTR program evaluation; and

(E) is available for use solely for program evaluation purposes by the Federal Government or, in accordance with policy directives issued by the Administration, by other authorized persons who are subject to a use and non-disclosure agreement with the Federal Government covering the use of the database.

(3) UPDATING INFORMATION FOR DATABASE.—

(A) IN GENERAL.—A small business concern applying for a second phase award under this section shall be required to update information in the database established under this subsection for any prior second phase award received by that small business concern. In complying with this paragraph, a small business concern may apportion sales or additional investment information relating to more than one second phase award among those awards, if it notes the apportionment for each award.

(B) ANNUAL UPDATES UPON TERMINATION.—A small business concern receiving a second phase award under this section shall—

- (i) update information in the database concerning that award at the termination of the award period; and
- (ii) be requested to voluntarily update such information annually thereafter for a period of 5 years.

(4) PROTECTION OF INFORMATION.—Information provided under paragraph (2) shall be considered privileged and confidential and not subject to disclosure pursuant to section 552 of title 5, United States Code.

(5) RULE OF CONSTRUCTION.—Inclusion of information in the database under this subsection shall not be considered to be publication for purposes of subsection (a) or (b) of section 102 of title 35, United States Code.

(l) REPORTING OF AWARDS MADE FROM SINGLE PROPOSAL, TO MULTIPLE AWARD WINNERS, OR TO CRITICAL TECHNOLOGY TOPICS.—

(1) SINGLE PROPOSAL.—If a Federal agency required to establish an SBIR program under subsection (f) makes an award with respect to an SBIR solicitation topic or subtopic for which the agency received only 1 proposal, the agency shall provide written justification for making the award in its next quarterly

report to the Administration and in the agency's next annual report required under subsection (g)(8).

(2) **MULTIPLE AWARDS.**—An agency referred to in paragraph (1) shall include in its next annual report required under subsection (g)(8) an accounting of the awards the agency has made for the first phase of an SBIR program during the reporting period to entities that have received more than 15 awards for the second phase of an SBIR program during the preceding 5 fiscal years.

(3) **CRITICAL TECHNOLOGY AWARDS.**—An agency referred to in paragraph (1) shall include in its next annual report required under subsection (g)(8), an accounting of the number of awards it has made to critical technology topics, as defined in subsection (g)(3), including an identification of the specific critical technologies topics, and the percentage by number and dollar amount of the agency's total SBIR awards to such critical technology topics.

(m) **TERMINATION.**—The authorization to carry out the Small Business Innovation Research Program established under this section shall terminate on September 30, 2008.

(n) **REQUIRED EXPENDITURES FOR STTR BY FEDERAL AGENCIES.**—

(1) **REQUIRED EXPENDITURE AMOUNTS.**—

(A) **IN GENERAL.**—With respect to each fiscal year through fiscal year 2009, each Federal agency that has an extramural budget for research, or research and development, in excess of \$1,000,000,000 for that fiscal year, shall expend with small business concerns not less than the percentage of that extramural budget specified in subparagraph (B), specifically in connection with STTR programs that meet the requirements of this section and any policy directives and regulations issued under this section.

(B) **EXPENDITURE AMOUNTS.**—The percentage of the extramural budget required to be expended by an agency in accordance with subparagraph (A) shall be—

(i) 0.15 percent for each fiscal year through fiscal year 2003; and

(ii) 0.3 percent for fiscal year 2004 and each fiscal year thereafter.

(2) **LIMITATIONS.**—A Federal agency shall not—

(A) use any of its STTR budget established pursuant to paragraph (1) for the purpose of funding administrative costs of the program, including costs associated with salaries and expenses, or, in the case of a small business concern or a research institution, costs associated with salaries, expenses, and administrative overhead (other than those direct or indirect costs allowable under guidelines of the Office of Management and Budget and the governmentwide Federal Acquisition Regulation issued in accordance with section 25(c)(1) of the Office of Federal Procurement Policy Act); or

(B) make available for the purpose of meeting the requirements of paragraph (1) an amount of its extramural budget for basic research which exceeds the percentage specified in paragraph (1).

(3) EXCLUSION OF CERTAIN FUNDING AGREEMENTS.—Funding agreements with small business concerns for research or research and development which result from competitive or single source selections other than an STTR program shall not be considered to meet any portion of the percentage requirements of paragraph (1).

(o) FEDERAL AGENCY STTR AUTHORITY.—Each Federal agency required to establish an STTR program in accordance with subsection (n) and regulations issued under this Act, shall—

(1) unilaterally determine categories of projects to be included in its STTR program;

(2) issue STTR solicitations in accordance with a schedule determined cooperatively with the Administration;

(3) unilaterally determine research topics within the agency's STTR solicitations, giving special consideration to broad research topics and to topics that further 1 or more critical technologies, as identified—

(A) by the National Critical Technologies Panel (or its successor) in reports required under section 603 of the National Science and Technology Policy, Organization, and Priorities Act of 1976; or

(B) by the Secretary of Defense, in accordance with section 2522 of title 10, United States Code;

(4) unilaterally receive and evaluate proposals resulting from STTR solicitations;

(5) unilaterally select awardees for its STTR funding agreements and inform each awardee under such an agreement, to the extent possible, of the expenses of the awardee that will be allowable under the funding agreement;

(6) administer its own STTR funding agreements (or delegate such administration to another agency);

(7) make payments to recipients of STTR funding agreements on the basis of progress toward or completion of the funding agreement requirements and, in all cases, make payment to recipients under such agreements in full, subject to audit, on or before the last day of the 12-month period beginning on the date of the completion of such requirements;

(8) include, as part of its annual performance plan as required by subsections (a) and (b) of section 1115 of title 31, United States Code, a section on its STTR program, and shall submit such section to the Committee on Small Business of the Senate, and the Committee on Science and the Committee on Small Business of the House of Representatives;

(9) collect such data from awardees as is necessary to assess STTR program outputs and outcomes;

(10) submit an annual report on the STTR program to the Administration and the Office of Science and Technology Policy;

(11) adopt the agreement developed by the Administrator under subsection (w) as the agency's model agreement for allocating between small business concerns and research institutions intellectual property rights and rights, if any, to carry out follow-on research, development, or commercialization;

(12) develop, in consultation with the Office of Federal Procurement Policy and the Office of Government Ethics, proce-

dures to ensure that federally funded research and development centers (as defined in subsection (e)(8)) that participate in STTR agreements—

(A) are free from organizational conflicts of interests relative to the STTR program;

(B) do not use privileged information gained through work performed for an STTR agency or private access to STTR agency personnel in the development of an STTR proposal; and

(C) use outside peer review, as appropriate;

(13) not later than July 31, 1993, develop procedures for assessing the commercial merit and feasibility of STTR proposals, as evidenced by—

(A) the small business concern's record of successfully commercializing STTR or other research;

(B) the existence of second phase funding commitments from private sector or non-STTR funding sources;

(C) the existence of third phase follow-on commitments for the subject of the research; and

(D) the presence of other indicators of the commercial potential of the idea;

(14) implement an outreach program to research institutions and small business concerns for the purpose of enhancing its STTR program, in conjunction with any such outreach done for purposes of the SBIR program; and

(15) collect, and maintain in a common format in accordance with subsection (v), such information from awardees as is necessary to assess the STTR program, including information necessary to maintain the database described in subsection (k).

(p) STTR POLICY DIRECTIVE.—

(1) ISSUANCE.—The Administrator shall issue a policy directive for the general conduct of the STTR programs within the Federal Government. Such policy directive shall be issued after consultation with—

(A) the heads of each of the Federal agencies required by subsection (n) to establish an STTR program;

(B) the Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office; and

(C) the Director of the Office of Federal Procurement Policy.

(2) CONTENTS.—The policy directive required by paragraph (1) shall provide for—

(A) simplified, standardized, and timely STTR solicitations;

(B) a simplified, standardized funding process that provides for—

(i) the timely receipt and review of proposals;

(ii) outside peer review, if appropriate;

(iii) protection of proprietary information provided in proposals;

(iv) selection of awardees;

(v) retention by a small business concern of the rights to data generated by the concern in the per-

formance of an STTR award for a period of not less than 4 years;

(vi) continued use by a small business concern, as a directed bailment, of any property transferred by a Federal agency to the small business concern in the second phase of the STTR program for a period of not less than 2 years, beginning on the initial date of the concern's participation in the third phase of such program;

(vii) cost sharing;

(viii) cost principles and payment schedules; and

(ix) 1-year awards for the first phase of an STTR program, generally not to exceed \$100,000, and 2-year awards for the second phase of an STTR program, generally not to exceed \$750,000, greater or lesser amounts to be awarded at the discretion of the awarding agency, and shorter or longer periods of time to be approved at the discretion of the awarding agency where appropriate for a particular project;

(C) minimizing regulatory burdens associated with participation in STTR programs;

(D) guidelines for a model agreement, to be used by all agencies, for allocating between small business concerns and research institutions intellectual property rights and rights, if any, to carry out follow-on research, development, or commercialization;

(E) procedures to ensure that—

(i) a recipient of an STTR award is a small business concern, as defined in section 3 and the regulations promulgated thereunder; and

(ii) such small business concern exercises management and control of the performance of the STTR funding agreement pursuant to a business plan providing for the commercialization of the technology that is the subject matter of the award; and

(F) procedures to ensure, to the extent practicable, that an agency which intends to pursue research, development, or production of a technology developed by a small business concern under an STTR program enters into follow-on, non-STTR funding agreements with the small business concern for such research, development, or production.

(3) MODIFICATIONS.—Not later than 120 days after the date of enactment of this paragraph, the Administrator shall modify the policy directive issued pursuant to this subsection to clarify that the rights provided for under paragraph (2)(B)(v) apply to all Federal funding awards under this section, including the first phase (as described in subsection (e)(6)(A)), the second phase (as described in subsection (e)(6)(B)), and the third phase (as described in subsection (e)(6)(C)).

(q) DISCRETIONARY TECHNICAL ASSISTANCE.—

(1) IN GENERAL.—Each Federal agency required by this section to conduct an SBIR program may enter into an agreement with a vendor selected under paragraph (2) to provide small business concerns engaged in SBIR projects with tech-

nical assistance services, such as access to a network of scientists and engineers engaged in a wide range of technologies, or access to technical and business literature available through on-line data bases, for the purpose of assisting such concerns in—

(A) making better technical decisions concerning such projects;

(B) solving technical problems which arise during the conduct of such projects;

(C) minimizing technical risks associated with such projects; and

(D) developing and commercializing new commercial products and processes resulting from such projects.

(2) **VENDOR SELECTION.**—Each agency may select a vendor to assist small business concerns to meet the goals listed in paragraph (1) for a term not to exceed 3 years. Such selection shall be competitive and shall utilize merit-based criteria.

(3) **ADDITIONAL TECHNICAL ASSISTANCE.**—

(A) **FIRST PHASE.**—Each agency referred to in paragraph (1) may provide services described in paragraph (1) to first phase SBIR award recipients in an amount equal to not more than \$4,000, which shall be in addition to the amount of the recipient's award.

(B) **SECOND PHASE.**—Each agency referred to in paragraph (1) may authorize any second phase SBIR award recipient to purchase, with funds available from their SBIR awards, services described in paragraph (1), in an amount equal to not more than \$4,000 per year.

(r) **THIRD PHASE AGREEMENTS.**—

(1) **IN GENERAL.**—In the case of a small business concern that is awarded a funding agreement for the second phase of an SBIR or STTR program, a Federal agency may enter into a third phase agreement with that business concern for additional work to be performed during or after the second phase period. The second phase funding agreement with the small business concern may, at the discretion of the agency awarding the agreement, set out the procedures applicable to third phase agreements with that agency or any other agency.

(2) **DEFINITION.**—In this subsection, the term “third phase agreement” means a follow-on, non-SBIR or non-STTR funded contract as described in paragraph (4)(C) or paragraph (6)(C) of subsection (e).

(3) **INTELLECTUAL PROPERTY RIGHTS.**—Each funding agreement under an SBIR or STTR program shall include provisions setting forth the respective rights of the United States and the small business concern with respect to intellectual property rights and with respect to any right to carry out follow-on research.

(s)¹ **OUTREACH.**—

(1) **DEFINITION OF ELIGIBLE STATE.**—In this subsection, the term “eligible State” means a State—

¹ Section 501(b)(2) of the Small Business Reauthorization Act of 1997, Public Law 105-135, 111 Stat. 2622 (as amended by section 114(a) of the “Small Business Innovation Research Program Reauthorization Act of 2000”, enacted into law by section (a)(9) of Public Law 106-554; 114 Stat. 2763A-679), repeals subsection (s) of this Act, effective October 1, 2005.

(A) if the total value of contracts awarded to the State during fiscal year 1995 under this section was less than \$5,000,000; and

(B) that certifies to the Administration described in paragraph (2) that the State will, upon receipt of assistance under this subsection, provide matching funds from non-Federal sources in an amount that is not less than 50 percent of the amount provided under this subsection.

(2) PROGRAM AUTHORITY.—Of amounts made available to carry out this section for each of the fiscal years 2000 through 2005, the Administrator may expend with eligible States not more than \$2,000,000 in each such fiscal year in order to increase the participation of small business concerns located in those States in the programs under this section.

(3) AMOUNT OF ASSISTANCE.—The amount of assistance provided to an eligible State under this subsection in any fiscal year—

(A) shall be equal to twice the total amount of matching funds from non-Federal sources provided by the State; and

(B) shall not exceed \$100,000.

(4) USE OF ASSISTANCE.—Assistance provided to an eligible State under this subsection shall be used by the State, in consultation with State and local departments and agencies, for programs and activities to increase the participation of small business concerns located in the State in the programs under this section, including—

(A) the establishment of quantifiable performance goals, including goals relating to—

(i) the number of program awards under this section made to small business concerns in the State; and

(ii) the total amount of Federal research and development contracts awarded to small business concerns in the State;

(B) the provision of competition outreach support to small business concerns in the State that are involved in research and development; and

(C) the development and dissemination of educational and promotional information relating to the programs under this section to small business concerns in the State.

(t) INCLUSION IN STRATEGIC PLANS.—Program information relating to the SBIR and STTR programs shall be included by each Federal agency in any update or revision required of the Federal agency under section 306(b) of title 5, United States Code.

(u) COORDINATION OF TECHNOLOGY DEVELOPMENT PROGRAMS.—

(1) DEFINITION OF TECHNOLOGY DEVELOPMENT PROGRAM.—In this subsection, the term “technology development program” means—

(A) the Experimental Program to Stimulate Competitive Research of the National Science Foundation, as established under section 113 of the National Science Foundation Authorization Act of 1988 (42 U.S.C. 1862g);

(B) the Defense Experimental Program to Stimulate Competitive Research of the Department of Defense;

(C) the Experimental Program to Stimulate Competitive Research of the Department of Energy;

(D) the Experimental Program to Stimulate Competitive Research of the Environmental Protection Agency;

(E) the Experimental Program to Stimulate Competitive Research of the National Aeronautics and Space Administration;

(F) the Institutional Development Award Program of the National Institutes of Health; and

(G) the National Research Initiative Competitive Grants Program of the Department of Agriculture.

(2) COORDINATION REQUIREMENTS.—Each Federal agency that is subject to subsection (f) and that has established a technology development program may, in each fiscal year, review for funding under that technology development program—

(A) any proposal to provide outreach and assistance to one or more small business concerns interested in participating in the SBIR program, including any proposal to make a grant or loan to a company to pay a portion or all of the cost of developing an SBIR proposal, from an entity, organization, or individual located in—

(i) a State that is eligible to participate in that program; or

(ii) a State described in paragraph (3); or

(B) any proposal for the first phase of the SBIR program, if the proposal, though meritorious, is not funded through the SBIR program for that fiscal year due to funding restraints, from a small business concern located in—

(i) a State that is eligible to participate in a technology development program; or

(ii) a State described in paragraph (3).

(3) ADDITIONALLY ELIGIBLE STATE.—A State referred to in subparagraph (A)(ii) or (B)(ii) of paragraph (2) is a State in which the total value of contracts awarded to small business concerns under all SBIR programs is less than the total value of contracts awarded to small business concerns in a majority of other States, as determined by the Administrator in biennial fiscal years, beginning with fiscal year 2000, based on the most recent statistics compiled by the Administrator.

(v) SIMPLIFIED REPORTING REQUIREMENTS.—The Administrator shall work with the Federal agencies required by this section to have an SBIR or STTR program to standardize reporting requirements for the collection of data from SBIR or STTR applicants and awardees, including data for inclusion in the database under subsection (k), taking into consideration the unique needs of each agency, and to the extent possible, permitting the updating of previously reported information by electronic means. Such requirements shall be designed to minimize the burden on small businesses.

(w) STTR MODEL AGREEMENT FOR INTELLECTUAL PROPERTY RIGHTS.—

(1) IN GENERAL.—The Administrator shall promulgate regulations establishing a single model agreement for use in the STTR program that allocates between small business concerns and research institutions intellectual property rights and

rights, if any, to carry out follow-on research, development, or commercialization.

(2) OPPORTUNITY FOR COMMENT.—In promulgating regulations under paragraph (1), the Administrator shall provide to affected agencies, small business concerns, research institutions, and other interested parties the opportunity to submit written comments.

STEVENSON-WYDLER TECHNOLOGY INNOVATION ACT OF 1980

AN ACT To promote United States technological innovation for the achievement of national economic, environmental, and social goals, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Stevenson-Wydler Technology Innovation Act of 1980". [15 U.S.C. 3701 note]

SEC. 2. [15 U.S.C. 3701] FINDINGS.

The Congress finds and declares that:

(1) Technology and industrial innovation are central to the economic, environmental, and social well-being of citizens of the United States.

(2) Technology and industrial innovation offer an improved standard of living, increased public and private sector productivity, creation of new industries and employment opportunities, improved public services and enhanced competitiveness of United States products in world markets.

(3) Many new discoveries and advances in science occur in universities and Federal laboratories, while the application of this new knowledge to commercial and useful public purposes depends largely upon actions by business and labor. Cooperation among academia, Federal laboratories, labor, and industry, in such forms as technology transfer, personnel exchange, joint research projects, and others, should be renewed, expanded, and strengthened.

(4) Small businesses have performed an important role in advancing industrial and technological innovation.

(5) Industrial and technological innovation in the United States may be lagging when compared to historical patterns and other industrialized nations.

(6) Increased industrial and technological innovation would reduce trade deficits, stabilize the dollar, increase productivity gains, increase employment, and stabilize prices.

(7) Government antitrust, economic, trade, patent, procurement, regulatory, research and development, and tax policies have significant impacts upon industrial innovation and development of technology, but there is insufficient knowledge of their effects in particular sectors of the economy.

(8) No comprehensive national policy exists to enhance technological innovation for commercial and public purposes. There is a need for such a policy, including a strong national policy supporting domestic technology transfer and utilization

of the science and technology resources of the Federal Government.

(9) It is in the national interest to promote the adaptation of technological innovations to State and local government uses. Technological innovations can improve services, reduce their costs, and increase productivity in State and local governments.

(10) The Federal laboratories and other performers of federally funded research and development frequently provide scientific and technological developments of potential use to State and local governments and private industry. These developments, which include inventions, computer software, and training technologies, should be made accessible to those governments and industry. There is a need to provide means of access and to give adequate personnel and funding support to these means.

(11) The Nation should give fuller recognition to individuals and companies which have made outstanding contributions to the promotion of technology or technological manpower for the improvement of the economic, environmental, or social wellbeing of the United States.

SEC. 3. [15 U.S.C. 3702] PURPOSE.

It is the purpose of this Act to improve the economic, environmental, and social well-being of the United States by—

(1) establishing organizations in the executive branch to study and stimulate technology;

(2) promoting technology development through the establishment of cooperative research centers;

(3) stimulating improved utilization of federally funded technology developments, including inventions, software, and training technologies, by State and local governments and the private sector;

(4) providing encouragement for the development of technology through the recognition of individuals and companies which have made outstanding contributions in technology; and

(5) encouraging the exchange of scientific and technical personnel among academia, industry, and Federal laboratories.

SEC. 4. [15 U.S.C. 3703] DEFINITIONS.

As used in this Act, unless the context otherwise requires, the term—

(1) "Office" means the Office of Technology Policy established under section 5 of this Act.

(2) "Secretary" means the Secretary of Commerce.

(3) "Under Secretary" means the Under Secretary of Commerce for Technology appointed under section 5(b)(1).

(4) "Centers" means Cooperative Research Centers established under section 7 or 9 of this Act.

(5) "Nonprofit institution" means an organization owned and operated exclusively for scientific or educational purposes, no part of the net earnings of which inures to the benefit of any private shareholder or individual.

(6) "Federal laboratory" means any laboratory, any federally funded research and development center, or any center established under section 7 or 9 of this Act that is owned, leased,

or otherwise used by a Federal agency and funded by the Federal Government, whether operated by the Government or by a contractor.

(7) "Supporting agency" means either the Department of Commerce or the National Science Foundation, as appropriate.

(8) "Federal agency" means any executive agency as defined in section 105 of title 5, United States Code, and the military departments as defined in section 102 of such title, as well as any agency of the legislative branch of the Federal Government.

(9) "Invention" means any invention or discovery which is or may be patentable or otherwise protected under title 35, United States Code, or any novel variety of plant which is or may be protectable under the Plant Variety Protection Act (7 U.S.C. 2321 et seq.).

(10) "Made" when used in conjunction with any invention means the conception or first actual reduction to practice of such invention.

(11) "Small business firm" means a small business concern as defined in section 2 of Public Law 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration.

(12) "Training technology" means computer software and related materials which are developed by a Federal agency to train employees of such agency, including but not limited to software for computer-based instructional systems and for interactive video disc systems.

(13) "Clearinghouse" means the Clearinghouse for State and Local Initiatives on Productivity, Technology, and Innovation established by section 6.

SEC. 5. [15 U.S.C. 3704] COMMERCE AND TECHNOLOGICAL INNOVATION.

(a) ESTABLISHMENT.—There is established in the Department of Commerce a Technology Administration, which shall operate in accordance with the provisions, findings, and purposes of this Act. The Technology Administration shall include—

(1) the National Institute of Standards and Technology;

(2) the National Technical Information Service; and

(3) a policy analysis office, which shall be known as the Office of Technology Policy.

(b) UNDER SECRETARY AND ASSISTANT SECRETARY.—The President shall appoint, by and with the advice and consent of the Senate, to the extent provided for in appropriations Acts—

(1) an Under Secretary of Commerce for Technology, who shall be compensated at the rate provided for level III of the Executive Schedule in section 5314 of title 5, United States Code; and

(2) an Assistant Secretary of Commerce for Technology Policy, who shall serve as policy analyst for the Under Secretary.

(c) DUTIES.—The Secretary, through the Under Secretary, as appropriate, shall—

(1) manage the Technology Administration and supervise its agencies, programs, and activities;

(2) conduct technology policy analyses to improve United States industrial productivity, technology, and innovation, and cooperate with United States industry in the improvement of its productivity, technology, and ability to compete successfully in world markets;

(3) carry out any functions formerly assigned to the Office of Productivity, Technology, and Innovation;

(4) assist in the implementation of the Metric Conversion Act of 1975;

(5) determine the relationships of technological developments and international technology transfers to the output, employment, productivity, and world trade performance of United States and foreign industrial sectors;

(6) determine the influence of economic, labor and other conditions, industrial structure and management, and government policies on technological developments in particular industrial sectors worldwide;

(7) identify technological needs, problems, and opportunities within and across industrial sectors that, if addressed, could make a significant contribution to the economy of the United States;

(8) assess whether the capital, technical and other resources being allocated to domestic industrial sectors which are likely to generate new technologies are adequate to meet private and social demands for goods and services and to promote productivity and economic growth;

(9) propose and support studies and policy experiments, in cooperation with other Federal agencies, to determine the effectiveness of measures with the potential of advancing United States technological innovation;

(10) provide that cooperative efforts to stimulate industrial innovation be undertaken between the Secretary and other officials in the Department of Commerce responsible for such areas as trade and economic assistance;

(11) encourage and assist the creation of centers and other joint initiatives by State or local governments, regional organizations, private businesses, institutions of higher education, nonprofit organizations, or Federal laboratories to encourage technology transfer, to stimulate innovation, and to promote an appropriate climate for investment in technology-related industries;

(12) propose and encourage cooperative research involving appropriate Federal entities, State or local governments, regional organizations, colleges or universities, nonprofit organizations, or private industry to promote the common use of resources, to improve training programs and curricula, to stimulate interest in high technology careers, and to encourage the effective dissemination of technology skills within the wider community;

(13) serve as a focal point for discussions among United States companies on topics of interest to industry and labor, including discussions regarding manufacturing and discussions regarding emerging technologies;

(14) consider government measures with the potential of advancing United States technological innovation and exploiting innovations of foreign origin; and

(15) publish the results of studies and policy experiments.

(d) JAPANESE TECHNICAL LITERATURE.—(1) In addition to the duties specified in subsection (c), the Secretary and the Under Secretary shall establish, and through the National Technical Information Service and with the cooperation of such other offices within the Department of Commerce as the Secretary considers appropriate, maintain a program (including an office in Japan) which shall, on a continuing basis—

(A) monitor Japanese technical activities and developments;

(B) consult with businesses, professional societies, and libraries in the United States regarding their needs for information on Japanese developments in technology and engineering;

(C) acquire and translate selected Japanese technical reports and documents that may be of value to agencies and departments of the Federal Government, and to businesses and researchers in the United States; and

(D) coordinate with other agencies and departments of the Federal Government to identify significant gaps and avoid duplication in efforts by the Federal Government to acquire, translate, index, and disseminate Japanese technical information.

Activities undertaken pursuant to subparagraph (C) of this paragraph shall only be performed on a cost-reimbursable basis. Translations referred to in such subparagraph shall be performed only to the extent that they are not otherwise available from sources within the private sector in the United States.

(2) Beginning in 1986, the Secretary shall prepare annual reports regarding important Japanese scientific discoveries and technical innovations in such areas as computers, semiconductors, biotechnology, and robotics and manufacturing. In preparing such reports, the Secretary shall consult with professional societies and businesses in the United States. The Secretary may, to the extent provided in advance by appropriation Acts, contract with private organizations to acquire and translate Japanese scientific and technical information relevant to the preparation of such reports.

(3) The Secretary also shall encourage professional societies and private businesses in the United States to increase their efforts to acquire, screen, translate, and disseminate Japanese technical literature.

(4) In addition, the Secretary shall compile, publish, and disseminate an annual directory which lists—

(A) all programs and services in the United States that collect, abstract, translate, and distribute Japanese scientific and technical information; and

(B) all translations of Japanese technical documents performed by agencies and departments of the Federal Government in the preceding 12 months that are available to the public.

(5) The Secretary shall transmit to the Congress, within 1 year after the date of enactment of the Japanese Technical Literature Act of 1986, a report on the activities of the Federal Government

to collect, abstract, translate, and distribute declassified Japanese scientific and technical information.

(e) REPORT.—The Secretary shall prepare and submit to the President and Congress, within 3 years after the date of enactment of this Act, a report on the progress, findings, and conclusions of activities conducted pursuant to sections 5, 6, 8, 11, 12, and 13 of this Act (as then in effect) and recommendations for possible modifications thereof.

(f) EXPERIMENTAL PROGRAM TO STIMULATE COMPETITIVE TECHNOLOGY.—

(1) IN GENERAL.—The Secretary, acting through the Under Secretary, shall establish for fiscal year 1999 a program to be known as the Experimental Program to Stimulate Competitive Technology (referred to in this subsection as the “program”). 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 those received by a majority of the States.

(2) ARRANGEMENTS.—In carrying out the program, the Secretary, acting through the Under Secretary, shall—

(A) enter into such arrangements as may be necessary to provide for the coordination of the program through the State committees established under the Experimental Program to Stimulate Competitive Research of the National Science Foundation; and

(B) cooperate with—

(i) any State science and technology council established under the program under subparagraph (A); and

(ii) representatives of small business firms and other appropriate technology-based businesses.

(3) GRANTS AND COOPERATIVE AGREEMENTS.—In carrying out the program, the Secretary, acting through the Under Secretary, may make grants or enter into cooperative agreements to provide for—

(A) technology research and development;

(B) technology transfer from university research;

(C) technology deployment and diffusion; and

(D) the strengthening of technological capabilities through consortia comprised of—

(i) technology-based small business firms;

(ii) industries and emerging companies;

(iii) universities; and

(iv) State and local development agencies and entities.

(4) REQUIREMENTS FOR MAKING AWARDS.—

(A) IN GENERAL.—In making awards under this subsection, the Secretary, acting through the Under Secretary, 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.

(B) 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 25 percent of the cost of those activities.

(5) **CRITERIA FOR STATES.**—The Secretary, acting through the Under Secretary, 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.

(6) **COORDINATION.**—To the extent practicable, in carrying out this subsection, the Secretary, acting through the Under Secretary, shall coordinate the program with other programs of the Department of Commerce.

(7) **REPORT.**—

(A) **IN GENERAL.**—Not later than 90 days after the date of the enactment of the Technology Administration Act of 1998, the Under Secretary shall prepare and submit a report that meets the requirements of this paragraph to the Secretary. Upon receipt of the report, the Secretary shall transmit a copy of the report to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science of the House of Representatives.

(B) **REQUIREMENTS FOR REPORT.**—The report prepared under this paragraph shall contain with respect to the program—

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

(ii) a management plan for the program;

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

(iv) milestones for the evaluation of activities to be assisted under the program in fiscal year 1999;

(v) 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

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

SEC. 6. [15 U.S.C. 3704a] CLEARINGHOUSE FOR STATE AND LOCAL INITIATIVES ON PRODUCTIVITY, TECHNOLOGY, AND INNOVATION.

(a) **ESTABLISHMENT.**—There is established within the Office of Productivity, Technology, and Innovation a Clearinghouse for State and Local Initiatives on Productivity, Technology, and Innovation. The Clearinghouse shall serve as a central repository of information on initiatives by State and local governments to enhance the competitiveness of American business through the stimulation of productivity, technology, and innovation and Federal efforts to assist State and local governments to enhance competitiveness.

(b) **RESPONSIBILITIES.**—The Clearinghouse may—

(1) establish relationships with State and local governments, and regional and multistate organizations of such governments, which carry out such initiatives;

(2) collect information on the nature, extent, and effects of such initiatives, particularly information useful to the Congress, Federal agencies, State and local governments, regional

and multistate organizations of such governments, businesses, and the public throughout the United States;

(3) disseminate information collected under paragraph (2) through reports, directories, handbooks, conferences, and seminars;

(4) provide technical assistance and advice to such governments with respect to such initiatives, including assistance in determining sources of assistance from Federal agencies which may be available to support such initiatives;

(5) study ways in which Federal agencies, including Federal laboratories, are able to use their existing policies and programs to assist State and local governments, and regional and multistate organizations of such governments, to enhance the competitiveness of American business;

(6) make periodic recommendations to the Secretary, and to other Federal agencies upon their request, concerning modifications in Federal policies and programs which would improve Federal assistance to State and local technology and business assistance programs;

(7) develop methodologies to evaluate State and local programs, and, when requested, advise State and local governments, and regional and multistate organizations of such governments, as to which programs are most effective in enhancing the competitiveness of American business through the stimulation of productivity, technology, and innovation; and

(8) make use of, and disseminate, the nationwide study of State industrial extension programs conducted by the Secretary.

(c) **CONTRACTS.**—In carrying out subsection (b), the Secretary may enter into contracts for the purpose of collecting information on the nature, extent, and effects of initiatives.

(d) **TRIENNIAL REPORT.**—The Secretary shall prepare and transmit to the Congress once each 3 years a report on initiatives by State and local governments to enhance the competitiveness of American businesses through the stimulation of productivity, technology, and innovation. The report shall include recommendations to the President, the Congress, and to Federal agencies on the appropriate Federal role in stimulating State and local efforts in this area. The first of these reports shall be transmitted to the Congress before January 1, 1989.

SEC. 7. [15 U.S.C. 3705] COOPERATIVE RESEARCH CENTERS.

(a) **ESTABLISHMENT.**—The Secretary shall provide assistance for the establishment of Cooperative Research Centers. Such Centers shall be affiliated with any university, or other nonprofit institution, or group thereof, that applies for and is awarded a grant or enters into a cooperative agreement under this section. The objective of the Centers is to enhance technological innovation through—

(1) the participation of individuals from industry and universities in cooperative technological innovation activities;

(2) the development of the generic research base, important for technological advance and innovative activity, in which individual firms have little incentive to invest, but which may

have significant economic or strategic importance, such as manufacturing technology;

(3) the education and training of individuals in the technological innovation process;

(4) the improvement of mechanisms for the dissemination of scientific, engineering, and technical information among universities and industry;

(5) the utilization of the capability and expertise, where appropriate, that exists in Federal laboratories; and

(6) the development of continuing financial support from other mission agencies, from State and local government, and from industry and universities through, among other means, fees, licenses, and royalties.

(b) **ACTIVITIES.**—The activities of the Centers shall include, but need not be limited to—

(1) research supportive of technological and industrial innovation including cooperative industry-university research;

(2) assistance to individuals and small business in the generation, evaluation and development of technological ideas supportive of industrial innovation and new business ventures;

(3) technical assistance and advisory services to industry, particularly small businesses; and

(4) curriculum development, training, and instruction in invention, entrepreneurship, and industrial innovation.

Each Center need not undertake all of the activities under this subsection.

(c) **REQUIREMENTS.**—Prior to establishing a Center, the Secretary shall find that—

(1) consideration has been given to the potential contribution of the activities proposed under the Center to productivity, employment, and economic competitiveness of the United States;

(2) a high likelihood exists of continuing participation, advice, financial support, and other contributions from the private sector;

(3) the host university or other nonprofit institution has a plan for the management and evaluation of the activities proposed within the particular Center, including:

(A) the agreement between the parties as to the allocation of patent rights on a nonexclusive, partially exclusive, or exclusive license basis to and inventions conceived or made under the auspices of the Center; and

(B) the consideration of means to place the Center, to the maximum extent feasible, on a self-sustaining basis;

(4) suitable consideration has been given to the university's or other nonprofit institution's capabilities and geographical location; and

(5) consideration has been given to any effects upon competition of the activities proposed under the Center.

(d) **PLANNING GRANTS.**—The Secretary is authorized to make available nonrenewable planning grants to universities or nonprofit institutions for the purpose of developing a plan required under subsection (c)(3).

(e) **RESEARCH AND DEVELOPMENT UTILIZATION.**—In the promotion of technology from research and development efforts by

Centers under this section, chapter 18 of title 35, United States Code, shall apply to the extent not inconsistent with this section.

SEC. 8. [15 U.S.C. 3706] GRANTS AND COOPERATIVE AGREEMENTS.

(a) **IN GENERAL.**—The Secretary may make grants and enter into cooperative agreements according to the provisions of this section in order to assist any activity consistent with this Act, including activities performed by individuals. The total amount of any such grant or cooperative agreement may not exceed 75 percent of the total cost of the program.

(b) **ELIGIBILITY AND PROCEDURE.**—Any person or institution may apply to the Secretary for a grant or cooperative agreement available under this section. Application shall be made in such form and manner, and with such content and other submissions, as the Assistant Secretary shall prescribe. The Secretary shall act upon each such application within 90 days after the date on which all required information is received.

(c) **TERMS AND CONDITIONS.**—

(1) Any grant made, or cooperative agreement entered into, under this section shall be subject to the limitations and provisions set forth in paragraph (2) of this subsection, and to such other terms, conditions, and requirements as the Secretary deems necessary or appropriate.

(2) Any person who receives or utilizes any proceeds of any grant made or cooperative agreement entered into under this section shall keep such records as the Secretary shall by regulation prescribe as being necessary and appropriate to facilitate effective audit and evaluation, including records which fully disclose the amount and disposition by such recipient of such proceeds, the total cost of the program or project in connection with which such proceeds were used, and the amount, if any, of such costs which was provided through other sources.

SEC. 9. [15 U.S.C. 3707] NATIONAL SCIENCE FOUNDATION COOPERATIVE RESEARCH CENTERS.

(a) **ESTABLISHMENT AND PROVISIONS.**—The National Science Foundation shall provide assistance for the establishment of Cooperative Research Centers. Such Centers shall be affiliated with a university or other nonprofit institution, or a group thereof. The objective of the Centers is to enhance technological innovation as provided in section 7(a) through the conduct of activities as provided in section 7(b).

(b) **PLANNING GRANTS.**—The National Science Foundation is authorized to make available nonrenewable planning grants to universities or nonprofit institutions for the purpose of developing the plan as described under section 7(c)(3).

(c) **TERMS AND CONDITIONS.**—Grants, contracts, and cooperative agreements entered into by the National Science Foundation in execution of the powers and duties of the National Science Foundation under this Act shall be governed by the National Science Foundation Act of 1950 and other pertinent Acts.

SEC. 10. [15 U.S.C. 3708] ADMINISTRATIVE ARRANGEMENTS.

(a) **COORDINATION.**—The Secretary and the National Science Foundation shall, on a continuing basis, obtain the advice and cooperation of departments and agencies whose missions contribute to or are affected by the programs established under this Act, in-

cluding the development of an agenda for research and policy experimentation. These departments and agencies shall include but not be limited to the Departments of Defense, Energy, Education, Health and Human Services, Housing and Urban Development and Space Administration, Small Business Administration, Council of Economic Advisers, Council on Environmental Quality, and Office of Science and Technology Policy.

(b) COOPERATION.—It is the sense of the Congress that departments and agencies, including the Federal laboratories, whose missions are affected by, or could contribute to, the programs established under this Act, should, within the limits of budgetary authorizations and appropriations, support or participate in activities or projects authorized by this Act.

(c) ADMINISTRATIVE AUTHORIZATION.—

(1) Departments and agencies described in subsection (b) are authorized to participate in, contribute to, and serve as resources for the Centers and for any other activities authorized under this Act.

(2) The Secretary and the National Science Foundation are authorized to receive moneys and to receive other forms of assistance from other departments or agencies to support activities of the Centers and any other activities authorized under this Act.

(d) COOPERATIVE EFFORTS.—The Secretary and the National Science Foundation shall, on a continuing basis, provide each other the opportunity to comment on any proposed program of activity under section 7, 9, 11, 15, 17, or 20 of this Act before funds are committed to such program in order to mount complementary efforts and avoid duplication.

SEC. 11. [15 U.S.C. 3710] UTILIZATION OF FEDERAL TECHNOLOGY.

(a) POLICY.—(1) It is the continuing responsibility of the Federal Government to ensure the full use of the results of the Nation's Federal investment in research and development. To this end the Federal Government shall strive where appropriate to transfer federally owned or originated technology to State and local governments and to the private sector.

(2) Technology transfer, consistent with mission responsibilities, is a responsibility of each laboratory science and engineering professional.

(3) Each laboratory director shall ensure that efforts to transfer technology are considered positively in laboratory job descriptions, employee promotion policies, and evaluation of the job performance of scientists and engineers in the laboratory.

(b) ESTABLISHMENT OF RESEARCH AND TECHNOLOGY APPLICATIONS OFFICES.—Each Federal laboratory shall establish an Office of Research and Technology Applications. Laboratories having existing organizational structures which perform the functions of this section may elect to combine the Office of Research and Technology Applications within the existing organization. The staffing and funding levels for these offices shall be determined between each Federal laboratory and the Federal agency operating or directing the laboratory, except that (1) each laboratory having 200 or more full-time equivalent scientific, engineering, and related technical positions shall provide one or more full-time equivalent positions as

staff for its Office of Research and Technology Applications, and (2) each Federal agency which operates or directs one or more Federal laboratories shall make available sufficient funding, either as a separate line item or from the agency's research and development budget, to support the technology transfer function at the agency and at its laboratories, including support of the Offices of Research and Technology Applications. Furthermore, individuals filling positions in an Office of Research and Technology Applications shall be included in the overall laboratory/agency management development program so as to ensure that highly competent technical managers are full participants in the technology transfer process.

(c) **FUNCTIONS OF RESEARCH AND TECHNOLOGY APPLICATIONS OFFICE.**—It shall be the function of each Office of Research and Technology Applications—

(1) to prepare application assessments for selected research and development projects in which that laboratory is engaged and which in the opinion of the laboratory may have potential commercial applications.

(2) to provide and disseminate information on federally owned or originated products, processes, and services having potential application to State and local governments and to private industry;

(3) to cooperate with and assist the National Technical Information Service, the Federal Laboratory Consortium for Technology Transfer, and other organizations which link the research and development resources of that laboratory and the Federal Government as a whole to potential users in State and local government and private industry;

(4) to provide technical assistance to State and local government officials; and

(5) to participate, where feasible, in regional, State, and local programs designed to facilitate or stimulate the transfer of technology for the benefit of the region, State, or local jurisdiction in which the Federal laboratory is located.

Agencies which have established organizational structures outside their Federal laboratories which have as their principal purpose the transfer of federally owned or originated technology to State and local government and to the private sector may elect to perform the functions of this subsection in such organizational structures. No Office of Research and Technology Applications or other organizational structures performing the functions of this subsection shall substantially compete with similar services available in the private sector.

(d) **DISSEMINATION OF TECHNICAL INFORMATION.**—The National Technical Information Service shall—

(1) serve as a central clearinghouse for the collection, dissemination and transfer of information on federally owned or originated technologies having potential application to State and local governments and to private industry;

(2) utilize the expertise and services of the National Science Foundation and the Federal Laboratory Consortium for Technology Transfer; particularly in dealing with State and local governments;

(3) receive requests for technical assistance from State and local governments, respond to such requests with published in-

formation available to the Service, and refer such requests to the Federal Laboratory Consortium for Technology Transfer to the extent that such requests require a response involving more than the published information available to the Service;

(4) provide funding, at the discretion of the Secretary, for Federal laboratories to provide the assistance specified in subsection (c)(3);

(5) use appropriate technology transfer mechanisms such as personnel exchanges and computer-based systems; and

(6) maintain a permanent archival repository and clearinghouse for the collection and dissemination of nonclassified scientific, technical, and engineering information.

(e) ESTABLISHMENT OF FEDERAL LABORATORY CONSORTIUM FOR TECHNOLOGY TRANSFER.—(1) There is hereby established the Federal Laboratory Consortium for Technology Transfer (hereinafter referred to as the “Consortium”) which, in cooperation with Federal laboratories and the private sector, shall—

(A) develop and (with the consent of the Federal laboratory concerned) administer techniques, training courses, and materials concerning technology transfer to increase the awareness of Federal laboratory employees regarding the commercial potential of laboratory technology and innovations;

(B) furnish advice and assistance requested by Federal agencies and laboratories for use in their technology transfer programs (including the planning of seminars for small business and other industry);

(C) provide a clearinghouse for requests, received at the laboratory level, for technical assistance from States and units of local governments, businesses, industrial development organizations, not-for-profit organizations including universities, Federal agencies and laboratories, and other persons, and—

(i) to the extent that such requests can be responded to with published information available to the National Technical Information Service, refer such requests to that Service, and

(ii) otherwise refer these requests to the appropriate Federal laboratories and agencies;

(D) facilitate communication and coordination between Offices of Research and Technology Applications of Federal laboratories;

(E) utilize (with the consent of the agency involved) the expertise and services of the National Science Foundation, the Department of Commerce, the National Aeronautics and Space Administration, and other Federal agencies, as necessary;

(F) with the consent of any Federal laboratory, facilitate the use by such laboratory of appropriate technology transfer mechanisms such as personnel exchanges and computer-based systems;

(G) with the consent of any Federal laboratory, assist such laboratory to establish programs using technical volunteers to provide technical assistance to communities related to such laboratory;

(H) facilitate communication and cooperation between Offices of Research and Technology Applications of Federal lab-

oratories and regional, State, and local technology transfer organizations;

(I) when requested, assist colleges or universities, businesses, nonprofit organizations, State or local governments, or regional organizations to establish programs to stimulate research and to encourage technology transfer in such areas as technology program development, curriculum design, long-term research planning, personnel needs projections, and productivity assessments;

(J) seek advice in each Federal laboratory consortium region from representatives of State and local governments, large and small business, universities, and other appropriate persons on the effectiveness of the program (and any such advice shall be provided at no expense to the Government); and

(K) work with the Director of the National Institute on Disability and Rehabilitation Research to compile a compendium of current and projected Federal Laboratory technologies and projects that have or will have an intended or recognized impact on the available range of assistive technology for individuals with disabilities (as defined in section 3 of the Assistive Technology Act of 1998), including technologies and projects that incorporate the principles of universal design (as defined in section 3 of such Act), as appropriate.

(2) The membership of the Consortium shall consist of the Federal laboratories described in clause (1) of subsection (b) and such other laboratories as may choose to join the Consortium. The representatives to the Consortium shall include a senior staff member of each Federal laboratory which is a member of the Consortium and a senior representative appointed from each Federal agency with one or more member laboratories.

(3) The representatives to the Consortium shall elect a Chairman of the Consortium.

(4) The Director of the National Institute of Standards and Technology shall provide the Consortium, on a reimbursable basis, with administrative services, such as office space, personnel, and support services of the Institute, as requested by the Consortium and approved by such Director.

(5) Each Federal laboratory or agency shall transfer technology directly to users or representatives of users, and shall not transfer technology directly to the Consortium. Each Federal laboratory shall conduct and transfer technology only in accordance with the practices and policies of the Federal agency which owns, leases, or otherwise uses such Federal laboratory.

(6) Not later than one year after the date of the enactment of this subsection, and every year thereafter, the Chairman of the Consortium shall submit a report to the President, to the appropriate authorization and appropriation committees of both Houses of the Congress, and to each agency with respect to which a transfer of funding is made (for the fiscal year or years involved) under paragraph (7), concerning the activities of the Consortium and the expenditures made by it under this subsection during the year for which the report is made. Such report shall include an annual independent audit of the financial statements of the Consortium, conducted in accordance with generally accepted accounting principles.

(7)(A) Subject to subparagraph (B), an amount equal to 0.008 percent of the budget of each Federal agency from any Federal source, including related overhead, that is to be utilized by or on behalf of the laboratories of such agency for a fiscal year referred to in subparagraph (B)(ii) shall be transferred by such agency to the National Institute of Standards at the beginning of the fiscal year involved. Amounts so transferred shall be provided by the Institute to the Consortium for the purpose of carrying out activities of the Consortium under this subsection.

(B) A transfer shall be made by any Federal agency under subparagraph (A), for any fiscal year, only if the amount so transferred by that agency (as determined under such subparagraph) would exceed \$10,000.

(C) The heads of Federal agencies and their designees, and the directors of Federal laboratories, may provide such additional support for operations of the Consortium as they deem appropriate.

(f) AGENCY REPORTS ON UTILIZATION.—

(1) IN GENERAL.—Each Federal agency which operates or directs one or more Federal laboratories or which conducts activities under sections 207 and 209 of title 35, United States Code, shall report annually to the Office of Management and Budget, as part of the agency's annual budget submission, on the activities performed by that agency and its Federal laboratories under the provisions of this section and of sections 207 and 209 of title 35, United States Code.

(2) CONTENTS.—The report shall include—

(A) an explanation of the agency's technology transfer program for the preceding fiscal year and the agency's plans for conducting its technology transfer function, including its plans for securing intellectual property rights in laboratory innovations with commercial promise and plans for managing its intellectual property so as to advance the agency's mission and benefit the competitiveness of United States industry; and

(B) information on technology transfer activities for the preceding fiscal year, including—

(i) the number of patent applications filed;

(ii) the number of patents received;

(iii) the number of fully-executed licenses which received royalty income in the preceding fiscal year, categorized by whether they are exclusive, partially-exclusive, or non-exclusive, and the time elapsed from the date on which the license was requested by the licensee in writing to the date the license was executed;

(iv) the total earned royalty income including such statistical information as the total earned royalty income, of the top 1 percent, 5 percent, and 20 percent of the licenses, the range of royalty income, and the median, except where disclosure of such information would reveal the amount of royalty income associated with an individual license or licensee;

(v) what disposition was made of the income described in clause (iv);

(vi) the number of licenses terminated for cause; and

(vii) any other parameters or discussion that the agency deems relevant or unique to its practice of technology transfer.

(3) COPY TO SECRETARY; ATTORNEY GENERAL; CONGRESS.—The agency shall transmit a copy of the report to the Secretary of Commerce and the Attorney General for inclusion in the annual report to Congress and the President required by subsection (g)(2).

(4) PUBLIC AVAILABILITY.—Each Federal agency reporting under this subsection is also strongly encouraged to make the information contained in such report available to the public through Internet sites or other electronic means.

(g) FUNCTIONS OF THE SECRETARY.—(1) The Secretary, through the Under Secretary, and in consultation with other Federal agencies, may—

(A) make available to interested agencies the expertise of the Department of Commerce regarding the commercial potential of inventions and methods and options for commercialization which are available to the Federal laboratories, including research and development limited partnerships;

(B) develop and disseminate to appropriate agency and laboratory personnel model provisions for use on a voluntary basis in cooperative research and development arrangements; and

(C) furnish advice and assistance, upon request, to Federal agencies concerning their cooperative research and development programs and projects.

(2) REPORTS.—

(A) ANNUAL REPORT REQUIRED.—The Secretary, in consultation with the Attorney General and the Commissioner of Patents and Trademarks, shall submit each fiscal year, beginning 1 year after the enactment of the Technology Transfer Commercialization Act of 2000, a summary report to the President, the United States Trade Representative, and the Congress on the use by Federal agencies and the Secretary of the technology transfer authorities specified in this Act and in sections 207 and 209 of title 35, United States Code.

(B) CONTENT.—The report shall—

(i) draw upon the reports prepared by the agencies under subsection (f);

(ii) discuss technology transfer best practices and effective approaches in the licensing and transfer of technology in the context of the agencies' missions; and

(iii) discuss the progress made toward development of additional useful measures of the outcomes of technology transfer programs of Federal agencies.

(C) PUBLIC AVAILABILITY.—The Secretary shall make the report available to the public through Internet sites or other electronic means.

(3) Not later than one year after the date of the enactment of the Federal Technology Transfer Act of 1986, the Secretary shall submit to the President and the Congress a report regarding—

(A) any copyright provisions or other types of barriers which tend to restrict or limit the transfer of federally funded computer software to the private sector and to State and local governments, and agencies of such State and local governments; and

(B) the feasibility and cost of compiling and maintaining a current and comprehensive inventory of all federally funded training software.

(h) **DUPLICATION OF REPORTING.**—The reporting obligations imposed by this section—

(1) are not intended to impose requirements that duplicate requirements imposed by the Government Performance and Results Act of 1993 (31 U.S.C. 1101 note);

(2) are to be implemented in coordination with the implementation of that Act; and

(3) are satisfied if an agency provided the information concerning technology transfer activities described in this section in its annual submission under the Government Performance and Results Act of 1993 (31 U.S.C. 1101 note).

(i) **RESEARCH EQUIPMENT.**—The Director of a laboratory, or the head of any Federal agency or department, may loan, lease, or give research equipment that is excess to the needs of the laboratory, agency, or department to an educational institution or nonprofit organization for the conduct of technical and scientific education and research activities. Title of ownership shall transfer with a gift under this section.

SEC. 12. [15 U.S.C. 3710a] COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS.

(a) **GENERAL AUTHORITY.**—Each Federal agency may permit the director of any of its Government-operated Federal laboratories, and, to the extent provided in an agency-approved joint work statement or, if permitted by the agency, in an agency-approved annual strategic plan, contractor-operated laboratories—

(1) to enter into cooperative research and development agreements on behalf of such agency (subject to subsection (c) of this section) with other Federal agencies; units of State or local government; industrial organizations (including corporations, partnerships, and limited partnerships, and industrial development organizations); public and private foundations; nonprofit organizations (including universities); or other persons (including licensees of inventions owned by the Federal agency); and

(2) to negotiate licensing agreements under section 207 of title 35, United States Code, or under other authorities (in the case of a Government-owned, contractor-operated laboratory, subject to subsection (c) of this section) for inventions made or other intellectual property developed at the laboratory and other inventions or other intellectual property that may be voluntarily assigned to the Government.

(b) **ENUMERATED AUTHORITY.**—(1) Under an agreement entered into pursuant to subsection (a)(1), the laboratory may grant, or agree to grant in advance, to a collaborating party patent licenses or assignments, or options thereto, in any invention made in whole or in part by a laboratory employee under the agreement, or, subject to section 209 of title 35, United States Code, may grant a li-

cense to an invention which is federally owned, for which a patent application was filed before the signing of the agreement, and directly within the scope of the work under the agreement, for reasonable compensation when appropriate. The laboratory shall ensure, through such agreement, that the collaborating party has the option to choose an exclusive license for a pre-negotiated field of use for any such invention under the agreement or, if there is more than one collaborating party, that the collaborating parties are offered the option to hold licensing rights that collectively encompass the rights that would be held under such an exclusive license by one party. In consideration for the Government's contribution under the agreement, grants under this paragraph shall be subject to the following explicit conditions:

(A) A nonexclusive, nontransferable, irrevocable, paid-up license from the collaborating party to the laboratory to practice the invention or have the invention practiced throughout the world by or on behalf of the Government. In the exercise of such license, the Government shall not publicly disclose trade secrets or commercial or financial information that is privileged or confidential within the meaning of section 552(b)(4) of title 5, United States Code, or which would be considered as such if it had been obtained from a non-Federal party.

(B) If a laboratory assigns title or grants an exclusive license to such an invention, the Government shall retain the right—

(i) to require the collaborating party to grant to a responsible applicant a nonexclusive, partially exclusive, or exclusive license to use the invention in the applicant's licensed field of use, on terms that are reasonable under the circumstances; or

(ii) if the collaborating party fails to grant such a license, to grant the license itself.

(C) The Government may exercise its right retained under subparagraph (B) only in exceptional circumstances and only if the Government determines that—

(i) the action is necessary to meet health or safety needs that are not reasonably satisfied by the collaborating party;

(ii) the action is necessary to meet requirements for public use specified by Federal regulations, and such requirements are not reasonably satisfied by the collaborating party; or

(iii) the collaborating party has failed to comply with an agreement containing provisions described in subsection (c)(4)(B).

This determination is subject to administrative appeal and judicial review under section 203(2) of title 35, United States Code.

(2) Under agreements entered into pursuant to subsection (a)(1), the laboratory shall ensure that a collaborating party may retain title to any invention made solely by its employee in exchange for normally granting the Government a nonexclusive, nontransferable, irrevocable, paid-up license to practice the invention

or have the invention practiced throughout the world by or on behalf of the Government for research or other Government purposes.

(3) Under an agreement entered into pursuant to subsection (a)(1), a laboratory may—

(A) accept, retain, and use funds, personnel, services, and property from a collaborating party and provide personnel, services, and property to a collaborating party;

(B) use funds received from a collaborating party in accordance with subparagraph (A) to hire personnel to carry out the agreement who will not be subject to full-time-equivalent restrictions of the agency;

(C) to the extent consistent with any applicable agency requirements or standards of conduct, permit an employee or former employee of the laboratory to participate in an effort to commercialize an invention made by the employee or former employee while in the employment or service of the Government; and

(D) waive, subject to reservation by the Government of a nonexclusive, irrevocable, paid-up license to practice the invention or have the invention practiced throughout the world by or on behalf of the Government, in advance, in whole or in part, any right of ownership which the Federal Government may have to any subject invention made under the agreement by a collaborating party or employee of a collaborating party.

(4) A collaborating party in an exclusive license in any invention made under an agreement entered into pursuant to subsection (a)(1) shall have the right of enforcement under chapter 29 of title 35, United States Code.

(5) A Government-owned, contractor-operated laboratory that enters into a cooperative research and development agreement pursuant to subsection (a)(1) may use or obligate royalties or other income accruing to the laboratory under such agreement with respect to any invention only—

(A) for payments to inventors;

(B) for purposes described in clauses (i), (ii), (iii), and (iv) of section 14(a)(1)(B); and

(C) for scientific research and development consistent with the research and development missions and objectives of the laboratory.

(6)(A) In the case of a laboratory that is part of the National Nuclear Security Administration, a designated official of that Administration may waive any license retained by the Government under paragraph (1)(A), (2), or (3)(D), in whole or in part and according to negotiated terms and conditions, if the designated official finds that the retention of the license by the Government would substantially inhibit the commercialization of an invention that would otherwise serve an important national security mission.

(B) The authority to grant a waiver under subparagraph (A) shall expire on the date that is five years after the date of the enactment of the Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001. The expiration under the preceding sentence of authority to grant a waiver under subparagraph (A) shall not affect any waiver granted under that subparagraph before the expiration of such authority.

(C) Not later than February 15 of each year, the Administrator for Nuclear Security shall submit to Congress a report on any waivers granted under this paragraph during the preceding year.

(c) CONTRACT CONSIDERATIONS.—(1) A Federal agency may issue regulations on suitable procedures for implementing the provisions of this section; however, implementation of this section shall not be delayed until issuance of such regulations.

(2) The agency in permitting a Federal laboratory to enter into agreements under this section shall be guided by the purposes of this Act.

(3)(A) Any agency using the authority given it under subsection (a) shall review standards of conduct for its employees for resolving potential conflicts of interest to make sure they adequately establish guidelines for situations likely to arise through the use of this authority, including but not limited to cases where present or former employees or their partners negotiate licenses or assignments of titles to inventions or negotiate cooperative research and development agreements with federal agencies (including the agency with which the employee involved is or was formerly employed).

(B) If, in implementing subparagraph (A), an agency is unable to resolve potential conflicts of interest within its current statutory framework, it shall propose necessary statutory changes to be forwarded to its authorizing committees in Congress.

(4) The laboratory director in deciding what cooperative research and development agreements to enter into shall—

(A) give special consideration to small business firms, and consortia involving small business firms; and

(B) give preference to business units located in the United States which agree that products embodying inventions made under the cooperative research and development agreement or produced through the use of such inventions will be manufactured substantially in the United States and, in the case of any industrial organization or other person subject to the control of a foreign company or government, as appropriate, take into consideration whether or not such foreign government permits United States agencies, organizations, or other persons to enter into cooperative research and development agreements and licensing agreements.

(5)(A) If the head of the agency or his designee desires an opportunity to disapprove or require the modification of any such agreement presented by the director of a Government-operated laboratory, the agreement shall provide a 30-day period within which such action must be taken beginning on the date the agreement is presented to him or her by the head of the laboratory concerned.

(B) In any case in which the head of an agency or his designee disapproves or requires the modification of an agreement presented by the director of a Government-operated laboratory under this section, the head of the agency or such designee shall transmit a written explanation of such disapproval or modification to the head of the laboratory concerned.

(C)(i) Any non-Federal entity that operates a laboratory pursuant to a contract with a Federal agency shall submit to the agency any cooperative research and development agreement that the enti-

ty proposes to enter into and the joint work statement if required with respect to that agreement.

(ii) A Federal agency that receives a proposed agreement and joint work statement under clause (i) shall review and approve, request specific modifications to, or disapprove the proposed agreement and joint work statement within 30 days after such submission. No agreement may be entered into by a Government-owned, contractor-operated laboratory under this section before both approval of the agreement and approval of a joint work statement under this clause.

(iii) In any case in which an agency which has contracted with an entity referred to in clause (i) disapproves or requests the modification of a cooperative research and development agreement or joint work statement submitted under that clause, the agency shall transmit a written explanation of such disapproval or modification to the head of the laboratory concerned.

(iv) Any agency that has contracted with a non-Federal entity to operate a laboratory may develop and provide to such laboratory one or more model cooperative research and development agreements for purposes of standardizing practices and procedures, resolving common legal issues, and enabling review of cooperative research and development agreements to be carried out in a routine and prompt manner.

(v) A Federal agency may waive the requirements of clause (i) or (ii) under such circumstances as the agency considers appropriate.

(6) Each agency shall maintain a record of all agreements entered into under this section.

(7)(A) No trade secrets or commercial or financial information that is privileged or confidential, under the meaning of section 552(b)(4) of title 5, United States Code, which is obtained in the conduct of research or as a result of activities under this Act from a non-Federal party participating in a cooperative research and development agreement shall be disclosed.

(B) The director, or in the case of a contractor-operated laboratory, the agency, for a period of up to 5 years after development of information that results from research and development activities conducted under this Act and that would be a trade secret or commercial or financial information that is privileged or confidential if the information had been obtained from a non-Federal party participating in a cooperative research and development agreement, may provide appropriate protections against the dissemination of such information, including exemption from subchapter II of chapter 5 of title 5, United States Code.

(d) DEFINITION.—As used in this section—

(1) the term “cooperative research and development agreement” means any agreement between one or more Federal laboratories and one or more non-Federal parties under which the Government, through its laboratories, provides personnel, services, facilities, equipment, intellectual property, or other resources with or without reimbursement (but not funds to non-Federal parties) and the non-Federal parties provide funds, personnel, services, facilities, equipment, intellectual property, or other resources toward the conduct of specified research or development efforts which are consistent with the missions of

the laboratory; except that such term does not include a procurement contract or cooperative agreement as those terms are used in sections 6303, 6304, and 6305 of title 31, United States Code;

(2) the term "laboratory" means—

(A) a facility or group of facilities owned, leased, or otherwise used by a Federal agency, a substantial purpose of which is the performance of research, development, or engineering by employees of the Federal Government;

(B) a group of Government-owned, contractor-operated facilities (including a weapon production facility of the Department of Energy) under a common contract, when a substantial purpose of the contract is the performance of research and development, or the production, maintenance, testing, or dismantlement of a nuclear weapon or its components, for the Federal Government; and

(C) a Government-owned, contractor-operated facility (including a weapon production facility of the Department of Energy) that is not under a common contract described in subparagraph (B), and the primary purpose of which is the performance of research and development, or the production, maintenance, testing, or dismantlement of a nuclear weapon or its components, for the Federal Government,

but such term does not include any facility covered by Executive Order No. 12344, dated February 1, 1982, pertaining to the naval nuclear propulsion program;

(3) the term "joint work statement" means a proposal prepared for a Federal agency by the director of a Government-owned, contractor-operated laboratory describing the purpose and scope of a proposed cooperative research and development agreement, and assigning rights and responsibilities among the agency, the laboratory, and any other party or parties to the proposed agreement; and

(4) the term "weapon production facility of the Department of Energy" means a facility under the control or jurisdiction of the Secretary of Energy that is operated for national security purposes and is engaged in the production, maintenance, testing, or dismantlement of a nuclear weapon or its components.

(e) DETERMINATION OF LABORATORY MISSIONS.—For purposes of this section, an agency shall make separate determinations of the mission or missions of each of its laboratories.

(f) RELATIONSHIP TO OTHER LAWS.—Nothing in this section is intended to limit or diminish existing authorities of any agency.

(g) PRINCIPLES.—In implementing this section, each agency which has contracted with a non-Federal entity to operate a laboratory shall be guided by the following principles:

(1) The implementation shall advance program missions at the laboratory, including any national security mission.

(2) Classified information and unclassified sensitive information protected by law, regulation, or Executive order shall be appropriately safeguarded.

SEC. 13. [15 U.S.C. 3710b] REWARDS FOR SCIENTIFIC, ENGINEERING, AND TECHNICAL PERSONNEL OF FEDERAL AGENCIES.

The head of each Federal agency that is making expenditures at a rate of more than \$50,000,000 per fiscal year for research and development in its Government-operated laboratories shall use the appropriate statutory authority to develop and implement a cash awards program to reward its scientific, engineering, and technical personnel for—

(1) inventions, innovations computer software, or other outstanding scientific or technological contributions of value to the United States due to commercial application or due to contributions to missions of the Federal agency or the Federal government, or

(2) exemplary activities that promote the domestic transfer of science and technology development within the Federal Government and result in utilization of such science and technology by American industry or business, universities, State or local governments, or other non-Federal parties.

SEC. 14. [15 U.S.C. 3710c] DISTRIBUTION OF ROYALTIES RECEIVED BY FEDERAL AGENCIES.

(a) IN GENERAL.—(1) Except as provided in paragraphs (2) and (4), any royalties or other payments received by a Federal agency from the licensing and assignment of inventions under agreements entered into by Federal laboratories under section 12, and from the licensing of inventions of Federal laboratories under section 207 of title 35, United States Code, or under any other provision of law, shall be retained by the laboratory which produced the invention and shall be disposed of as follows:

(A)(i) The head of the agency or laboratory, or such individual's designee, shall pay each year the first \$2,000, and thereafter at least 15 percent, of the royalties or other payments, other than payments of patent costs as delineated by a license or assignment agreement, to the inventor or coinventors, if the inventor's or coinventor's rights are assigned to the United States.

(ii) An agency or laboratory may provide appropriate incentives, from royalties, or other payments, to laboratory employees who are not an inventor of such inventions but who substantially increased the technical value of such inventions.

(iii) The agency or laboratory shall retain the royalties and other payments received from an invention until the agency or laboratory makes payments to employees of a laboratory under clause (i) or (ii).

(B) The balance of the royalties or other payments shall be transferred by the agency to its laboratories, with the majority share of the royalties or other payments from any invention going to the laboratory where the invention occurred. The royalties or other payments so transferred to any laboratory may be used or obligated by that laboratory during the fiscal year in which they are received or during the 2 succeeding fiscal years—

(i) to reward scientific, engineering, and technical employees of the laboratory, including developers of sensitive or classified technology, regardless of whether the technology has commercial applications;

(ii) to further scientific exchange among the laboratories of the agency;

(iii) for education and training of employees consistent with the research and development missions and objectives of the agency or laboratory, and for other activities that increase the potential for transfer of the technology of the laboratories of the agency;

(iv) for payment of expenses incidental to the administration and licensing of intellectual property by the agency or laboratory with respect to inventions made at that laboratory, including the fees or other costs for the services of other agencies, persons, or organizations for intellectual property management and licensing services; or

(v) for scientific research and development consistent with the research and development missions and objectives of the laboratory.

(C) All royalties or other payments retained by the agency or laboratory after payments have been made pursuant to subparagraphs (A) and (B) that is unobligated and unexpended at the end of the second fiscal year succeeding the fiscal year in which the royalties and other payments were received shall be paid into the Treasury.

(2) If, after payments to inventors under paragraph (1), the royalties or other payments received by an agency in any fiscal year exceed 5 percent of the budget of the agency for that year, 75 percent of such excess shall be paid to the Treasury of the United States and the remaining 25 percent may be used or obligated under paragraph (1)(B). Any funds not so used or obligated shall be paid into the Treasury of the United States.

(3) Any payment made to an employee under this section shall be in addition to the regular pay of the employee and to any other awards made to the employee, and shall not affect the entitlement of the employee to any regular pay, annuity, or award to which he is otherwise entitled or for which he is otherwise eligible or limit the amount thereof. Any payment made to an inventor as such shall continue after the inventor leaves the laboratory or agency. Payments made under this section shall not exceed \$150,000 per year to any one person, unless the President approves a larger award (with the excess over \$150,000 being treated as a Presidential award under section 4504 of title 5, United States Code).

(4) A Federal agency receiving royalties or other payments as a result of invention management services performed for another Federal agency or laboratory under section 207 of title 35, United States Code, may retain such royalties or payments to the extent required to offset payments to inventors under clause (i) of paragraph (1)(A), costs and expenses incurred under clause (iv) of paragraph (1)(B), and the cost of foreign patenting and maintenance for any invention of the other agency. All royalties and other payments remaining after offsetting the payments to inventors, costs, and expenses described in the preceding sentence shall be transferred to the agency for which the services were performed, for distribution in accordance with paragraph (1)(B).

(b) CERTAIN ASSIGNMENTS.—If the invention involved was one assigned to the Federal agency—

(1) by a contractor, grantee, or participant, or an employee of a contractor, grantee, or participant, in an agreement or other arrangement with the agency, or

(2) by an employee of the agency who was not working in the laboratory at the time the invention was made, the agency unit that was involved in such assignment shall be considered to be a laboratory for purposes of this section.

(c) **REPORTS.**—The Comptroller General shall transmit a report to the appropriate committees of the Senate and House of Representatives on the effectiveness of Federal technology transfer programs, including findings, conclusions, and recommendations for improvements in such programs. The report shall be integrated with, and submitted at the same time as, the report required by section 202(b)(3) of title 35, United States Code.

SEC. 15. [15 U.S.C. 3710d] EMPLOYEE ACTIVITIES.

(a) **IN GENERAL.**—If a Federal agency which has ownership of or the right of ownership to an invention made by a Federal employee does not intend to file for a patent application or otherwise to promote commercialization of such invention, the agency shall allow the inventor, if the inventor is a Government employee or former employee who made the invention during the course of employment with the Government, to obtain or retain title to the invention (subject to reservation by the Government of a nonexclusive, nontransferrable, irrevocable, paid-up license to practice the invention or have the invention practiced throughout the world by or on behalf of the Government). In addition, the agency may condition the inventor's right to title on the timely filing of a patent application in cases when the Government determines that it has or may have a need to practice the invention.

(b) **DEFINITION.**—For purposes of this section, Federal employees include "special Government employees" as defined in section 202 of title 18, United States Code.

(c) **RELATIONSHIP TO OTHER LAWS.**—Nothing in this section is intended to limit or diminish existing authorities of any agency.

SEC. 16. [15 U.S.C. 3711] NATIONAL MEDAL.

(a) **ESTABLISHMENT.**—There is hereby established a National Technology Medal, which shall be of such design and materials and bear such inscriptions as the President, on the basis of recommendations submitted by the Office of Science and Technology Policy, may prescribe.

(b) **AWARD.**—The President shall periodically award the medal, on the basis of recommendations received from the Secretary or on the basis of such other information and evidence as he deems appropriate, to individuals or companies, which in his judgment are deserving of special recognition by reason of their outstanding contributions to the promotion of technology or technological manpower for the improvement of the economic, environmental, or social well-being of the United States.

(c) **PRESENTATION.**—The presentation of the award shall be made by the President with such ceremonies as he may deem proper.

SEC. 17. [15 U.S.C. 3711a] MALCOLM BALDRIGE NATIONAL QUALITY AWARD.

(a) **ESTABLISHMENT.**—There is hereby established the Malcolm Baldrige National Quality Award, which shall be evidenced by a medal bearing the inscriptions “Malcolm Baldrige National Quality Award” and “The Quest for Excellence”. The medal shall be of such design and materials and bear such additional inscriptions as the Secretary may prescribe.

(b) **MAKING AND PRESENTATION OF AWARD.**—(1) The President (on the basis of recommendations received from the Secretary), or the Secretary, shall periodically make the award to companies and other organizations which in the judgment of the President or the Secretary have substantially benefited the economic or social well-being of the United States through improvements in the quality of their goods or services resulting from the effective practice of quality management, and which as a consequence are deserving of special recognition.

(2) The presentation of the award shall be made by the President or the Secretary with such ceremonies as the President or the Secretary may deem proper.

(3) An organization to which an award is made under this section, and which agrees to help other American organizations improve their quality management, may publicize its receipt of such award and use the award in its advertising, but it shall be ineligible to receive another such award in the same category for a period of 5 years.

(c) **CATEGORIES IN WHICH AWARD MAY BE GIVEN.**—(1) Subject to paragraph (2), separate awards shall be made to qualifying organizations in each of the following categories—

(A) Small businesses.

(B) Companies or their subsidiaries.

(C) Companies which primarily provide services.

(D)¹ Health care providers.

(E)¹ Education providers.

(2) The Secretary may at any time expand, subdivide, or otherwise modify the list of categories within which awards may be made as initially in effect under paragraph (1), and may establish separate awards for other organizations including units of government, upon a determination that the objectives of this section would be better served thereby; except that any such expansion, subdivision, modification, or establishment shall not be effective unless and until the Secretary has submitted a detailed description thereof to the Congress and a period of 30 days has elapsed since that submission.

(3) Not more than two awards may be made within any subcategory in any year, unless the Secretary determines that a third award is merited and can be given at no additional cost to the Federal Government (and no award shall be made within any category or subcategory if there are no qualifying enterprises in that category or subcategory).

(d) **CRITERIA FOR QUALIFICATION.**—(1) An organization may qualify for an award under this section only if it—

¹Margins so in law.

(A) applies to the Director of the National Institute of Standards and Technology in writing, for the award,

(B) permits a rigorous evaluation of the way in which its business and other operations have contributed to improvements in the quality of goods and services, and

(C) meets such requirements and specifications as the Secretary, after receiving recommendations from the Board of Overseers established under paragraph (2)(B) and the Director of the National Institute of Standards and Technology, determines to be appropriate to achieve the objectives of this section.

In applying the provisions of subparagraph (C) with respect to any organization, the Director of the National Institute of Standards and Technology shall rely upon an intensive evaluation by a competent board of examiners which shall review the evidence submitted by the organization and, through a site visit, verify the accuracy of the quality improvements claimed. The examination should encompass all aspects of the organization's current practice of quality management, as well as the organization's provision for quality management in its future goals. The award shall be given only to organizations which have made outstanding improvements in the quality of their goods or services (or both) and which demonstrate effective quality management through the training and involvement of all levels of personnel in quality improvement.

(2)(A) The Director of the National Institute of Standards and Technology shall, under appropriate contractual arrangements, carry out the Director's responsibilities under subparagraphs (A) and (B) of paragraph (1) through one or more broad-based nonprofit entities which are leaders in the field of quality management and which have a history of service to society.

(B) The Secretary shall appoint a board of overseers for the award, consisting of at least five persons selected for their preeminence in the field of quality management. This board shall meet annually to review the work of the contractor or contractors and make such suggestions for the improvement of the award process as they deem necessary. The board shall report the results of the award activities to the Director of the National Institute of Standards and Technology each year, along with its recommendations for improvement of the process.

(e) INFORMATION AND TECHNOLOGY TRANSFER PROGRAM.—The Director of the National Institute of Standards and Technology shall ensure that all program participants receive the complete results of their audits as well as detailed explanations of all suggestions for improvements. The Director shall also provide information about the awards and the successful quality improvement strategies and programs of the award-winning participants to all participants and other appropriate groups.

(f) FUNDING.—The Secretary is authorized to seek and accept gifts from public and private sources to carry out the program under this section. If additional sums are needed to cover the full cost of the program, the Secretary shall impose fees upon the organizations applying for the award in amounts sufficient to provide such additional sums. The Director is authorized to use appropriated funds to carry out responsibilities under this Act.

(g) REPORT.—The Secretary shall prepare and submit to the President and the Congress, within 3 years after the date of the enactment of this section, a report on the progress, findings, and conclusions of activities conducted pursuant to this section along with recommendations for possible modifications thereof.

SEC. 18. [15 U.S.C. 3711b] CONFERENCE ON ADVANCED AUTOMOTIVE TECHNOLOGIES.

Not later than 180 days after the date of the enactment of this section, the Secretary of Commerce, through the Under Secretary of Commerce for Technology, in consultation with other appropriate officials, shall convene a conference of domestic motor vehicle manufacturers, parts suppliers, Federal laboratories, and motor vehicle users to explore ways in which cooperatively they can improve the competitiveness of the United States motor vehicle industry by developing new technologies which will enhance the safety and energy savings, and lessen the environmental impact of domestic motor vehicles, and the results of such conference shall be published and then submitted to the President and to the Committees on Science, Space, and Technology and Public Works and Transportation of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate.

SEC. 19. [15 U.S.C. 3711c] ADVANCED MOTOR VEHICLE RESEARCH AWARD.

(a) ESTABLISHMENT.—There is established a National Award for the Advancement of Motor Vehicle Research and Development. The award shall consist of a medal, and a cash prize if funding is available for the prize under subsection (c). The medal shall be of such design and materials and bear inscriptions as is determined by the Secretary of Transportation.

(b) MAKING AND PRESENTING AWARD.—The Secretary of Transportation shall periodically make and present the award to domestic motor vehicle manufacturers, suppliers, or Federal laboratory personnel who, in the opinion of the Secretary of Transportation, have substantially improved domestic motor vehicle research and development in safety, energy savings, or environmental impact. No person may receive the award more than once every 5 years.

(c) FUNDING FOR AWARD.—The Secretary of Transportation may seek and accept gifts of money from private sources for the purpose of making cash prize awards under this section. Such money may be used only for that purpose, and only such money may be used for that purpose.

SEC. 20. [15 U.S.C. 3712] PERSONNEL EXCHANGES.

The Secretary and the National Science Foundation, jointly, shall establish a program to foster the exchange of scientific and technical personnel among academia, industry, and Federal laboratories. Such program shall include both (1) federally supported exchanges and (2) efforts to stimulate exchanges without Federal funding.

SEC. 21. [15 U.S.C. 3713] AUTHORIZATION APPROPRIATIONS.

(a)(1) There is authorized to be appropriated to the Secretary for the purposes of carrying out sections 5, 11(g), and 16 of this Act not to exceed \$3,400,000 for the fiscal year ending September 30, 1988.

(2) Of the amount authorized under paragraph (1) of this subsection, \$2,400,000 is authorized only for the Office of Productivity, Technology, and Innovation; \$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; and \$500,000 is authorized only for the patent licensing activities of the National Technical Information Service.

(b) In addition to the authorization of appropriations provided under subsection (a) of this section, there is authorized to be appropriated to the Secretary for the purposes of carrying out section 6 of this Act not to exceed \$500,000 for the fiscal year ending September 30, 1988, \$1,000,000 for the fiscal year ending September 30, 1989, and \$1,500,000 for the fiscal year ending September 30, 1990.

(c) Such sums as may be appropriated under subsections (a) and (b) shall remain available until expended.

(d) To enable the National Science Foundation to carry out its powers and duties under this Act only such sums may be appropriated as the Congress may authorize by law.

SEC. 22. [15 U.S.C. 3714] SPENDING AUTHORITY.

No payments shall be made or contracts shall be entered into pursuant to the provisions of this Act (other than sections 12, 13, and 14) except to such extent or in such amounts as are provided in advance in appropriation Acts.

SEC. 23. [15 U.S.C. 3715] USE OF PARTNERSHIP INTERMEDIARIES.

(a) **AUTHORITY.**—Subject to the approval of the Secretary or head of the affected department or agency, the Director of a Federal laboratory, or in the case of a federally funded research and development center, the Federal employee who is the contract officer, may—

(1) enter into a contract or memorandum of understanding with a partnership intermediary that provides for the partnership intermediary to perform services for the Federal laboratory that increase the likelihood of success in the conduct of cooperative or joint activities of such Federal laboratory with small business firms, institutions of higher education as defined in section 1201(a) of the Higher Education Act of 1965 (20 U.S.C. 1141(a)), or educational institutions within the meaning of section 2194 of title 10, United States Code; and

(2) pay the Federal costs of such contract or memorandum of understanding out of funds available for the support of the technology transfer function pursuant to section 11(b) of this Act.

(b) **PARTNERSHIP PROGRESS REPORTS.**—The Secretary shall include in each triennial report required under section 6(d) of this Act a discussion and evaluation of the activities carried out pursuant to this section during the period covered by the report.

(c) **DEFINITION.**—For purposes of this section, the term “partnership intermediary” means an agency of a State or local government, or a nonprofit entity owned in whole or in part by, chartered by, funded in whole or in part by, or operated in whole or in part by or on behalf of a State or local government, that assists, counsels, advises, evaluates, or otherwise cooperates with small business firms, institutions of higher education as defined in section

1201(a) of the Higher Education Act of 1965 (20 U.S.C. 1141(a)), or educational institutions within the meaning of section 2194 of title 10, United States Code, that need or can make demonstrably productive use of technology-related assistance from a Federal laboratory, including State programs receiving funds under cooperative agreements entered into under section 5121(b) of the Omnibus Trade and Competitiveness Act of 1988 (15 U.S.C. 2781 note).

21st CENTURY NANOTECHNOLOGY RESEARCH AND DEVELOPMENT ACT

AN ACT To authorize appropriations for nanoscience, nanoengineering, and nanotechnology research, and for other purposes.

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

SECTION 1. [15 U.S.C. 7501 note] SHORT TITLE.

This Act may be cited as the “21st Century Nanotechnology Research and Development Act”.

SEC. 2. [15 U.S.C. 7501] NATIONAL NANOTECHNOLOGY PROGRAM.

(a) NATIONAL NANOTECHNOLOGY PROGRAM.—The President shall implement a National Nanotechnology Program. Through appropriate agencies, councils, and the National Nanotechnology Coordination Office established in section 3, the Program shall—

(1) establish the goals, priorities, and metrics for evaluation for Federal nanotechnology research, development, and other activities;

(2) invest in Federal research and development programs in nanotechnology and related sciences to achieve those goals; and

(3) provide for interagency coordination of Federal nanotechnology research, development, and other activities undertaken pursuant to the Program.

(b) PROGRAM ACTIVITIES.—The activities of the Program shall include—

(1) developing a fundamental understanding of matter that enables control and manipulation at the nanoscale;

(2) providing grants to individual investigators and interdisciplinary teams of investigators;

(3) establishing a network of advanced technology user facilities and centers;

(4) establishing, on a merit-reviewed and competitive basis, interdisciplinary nanotechnology research centers, which shall—

(A) interact and collaborate to foster the exchange of technical information and best practices;

(B) involve academic institutions or national laboratories and other partners, which may include States and industry;

(C) make use of existing expertise in nanotechnology in their regions and nationally;

(D) make use of ongoing research and development at the micrometer scale to support their work in nanotechnology; and

(E) to the greatest extent possible, be established in geographically diverse locations, encourage the participation of Historically Black Colleges and Universities that are part B institutions as defined in section 322(2) of the Higher Education Act of 1965 (20 U.S.C. 1061(2)) and minority institutions (as defined in section 365(3) of that Act (20 U.S.C. 1067k(3))), and include institutions located in States participating in the Experimental Program to Stimulate Competitive Research (EPSCoR);

(5) ensuring United States global leadership in the development and application of nanotechnology;

(6) advancing the United States productivity and industrial competitiveness through stable, consistent, and coordinated investments in long-term scientific and engineering research in nanotechnology;

(7) accelerating the deployment and application of nanotechnology research and development in the private sector, including startup companies;

(8) encouraging interdisciplinary research, and ensuring that processes for solicitation and evaluation of proposals under the Program encourage interdisciplinary projects and collaborations;

(9) providing effective education and training for researchers and professionals skilled in the interdisciplinary perspectives necessary for nanotechnology so that a true interdisciplinary research culture for nanoscale science, engineering, and technology can emerge;

(10) ensuring that ethical, legal, environmental, and other appropriate societal concerns, including the potential use of nanotechnology in enhancing human intelligence and in developing artificial intelligence which exceeds human capacity, are considered during the development of nanotechnology by—

(A) establishing a research program to identify ethical, legal, environmental, and other appropriate societal concerns related to nanotechnology, and ensuring that the results of such research are widely disseminated;

(B) requiring that interdisciplinary nanotechnology research centers established under paragraph (4) include activities that address societal, ethical, and environmental concerns;

(C) insofar as possible, integrating research on societal, ethical, and environmental concerns with nanotechnology research and development, and ensuring that advances in nanotechnology bring about improvements in quality of life for all Americans; and

(D) providing, through the National Nanotechnology Coordination Office established in section 3, for public input and outreach to be integrated into the Program by the convening of regular and ongoing public discussions, through mechanisms such as citizens' panels, consensus conferences, and educational events, as appropriate; and

(11) encouraging research on nanotechnology advances that utilize existing processes and technologies.

(c) PROGRAM MANAGEMENT.—The National Science and Technology Council shall oversee the planning, management, and coordination of the Program. The Council, itself or through an appropriate subgroup it designates or establishes, shall—

(1) establish goals and priorities for the Program, based on national needs for a set of broad applications of nanotechnology;

(2) establish program component areas, with specific priorities and technical goals, that reflect the goals and priorities established for the Program;

(3) oversee interagency coordination of the Program, including with the activities of the Defense Nanotechnology Research and Development Program established under section 246 of the Bob Stump National Defense Authorization Act for Fiscal Year 2003 (Public Law 107–314) and the National Institutes of Health;

(4) develop, within 12 months after the date of enactment of this Act, and update every 3 years thereafter, a strategic plan to guide the activities described under subsection (b), meet the goals, priorities, and anticipated outcomes of the participating agencies, and describe—

(A) how the Program will move results out of the laboratory and into application for the benefit of society;

(B) the Program's support for long-term funding for interdisciplinary research and development in nanotechnology; and

(C) the allocation of funding for interagency nanotechnology projects;

(5) propose a coordinated interagency budget for the Program to the Office of Management and Budget to ensure the maintenance of a balanced nanotechnology research portfolio and an appropriate level of research effort;

(6) exchange information with academic, industry, State and local government (including State and regional nanotechnology programs), and other appropriate groups conducting research on and using nanotechnology;

(7) develop a plan to utilize Federal programs, such as the Small Business Innovation Research Program and the Small Business Technology Transfer Research Program, in support of the activity stated in subsection (b)(7);

(8) identify research areas that are not being adequately addressed by the agencies' current research programs and address such research areas;

(9) encourage progress on Program activities through the utilization of existing manufacturing facilities and industrial infrastructures such as, but not limited to, the employment of underutilized manufacturing facilities in areas of high unemployment as production engineering and research testbeds; and

(10) in carrying out its responsibilities under paragraphs (1) through (9), take into consideration the recommendations of the Advisory Panel, suggestions or recommendations developed pursuant to subsection (b)(10)(D), and the views of academic,

State, industry, and other appropriate groups conducting research on and using nanotechnology.

(d) ANNUAL REPORT.—The Council shall prepare an annual report, to be submitted to the Senate Committee on Commerce, Science, and Transportation and the House of Representatives Committee on Science, and other appropriate committees, at the time of the President's budget request to Congress, that includes—

(1) the Program budget, for the current fiscal year, for each agency that participates in the Program, including a breakout of spending for the development and acquisition of research facilities and instrumentation, for each program component area, and for all activities pursuant to subsection (b)(10);

(2) the proposed Program budget for the next fiscal year, for each agency that participates in the Program, including a breakout of spending for the development and acquisition of research facilities and instrumentation, for each program component area, and for all activities pursuant to subsection (b)(10);

(3) an analysis of the progress made toward achieving the goals and priorities established for the Program;

(4) an analysis of the extent to which the Program has incorporated the recommendations of the Advisory Panel; and

(5) an assessment of how Federal agencies are implementing the plan described in subsection (c)(7), and a description of the amount of Small Business Innovative Research and Small Business Technology Transfer Research funds supporting the plan.

SEC. 3. [15 U.S.C. 7502] PROGRAM COORDINATION.

(a) IN GENERAL.—The President shall establish a National Nanotechnology Coordination Office, with a Director and full-time staff, which shall—

(1) provide technical and administrative support to the Council and the Advisory Panel;

(2) serve as the point of contact on Federal nanotechnology activities for government organizations, academia, industry, professional societies, State nanotechnology programs, interested citizen groups, and others to exchange technical and programmatic information;

(3) conduct public outreach, including dissemination of findings and recommendations of the Advisory Panel, as appropriate; and

(4) promote access to and early application of the technologies, innovations, and expertise derived from Program activities to agency missions and systems across the Federal Government, and to United States industry, including startup companies.

(b) FUNDING.—The National Nanotechnology Coordination Office shall be funded through interagency funding in accordance with section 631 of Public Law 108–7.

(c) REPORT.—Within 90 days after the date of enactment of this Act, the Director of the Office of Science and Technology Policy shall report to the Senate Committee on Commerce, Science, and Transportation, and the House of Representatives Committee on Science on the funding of the National Nanotechnology Coordination Office. The report shall include—

- (1) the amount of funding required to adequately fund the Office;
- (2) the adequacy of existing mechanisms to fund this Office; and
- (3) the actions taken by the Director to ensure stable funding of this Office.

SEC. 4. [15 U.S.C. 7503] ADVISORY PANEL.

(a) **IN GENERAL.**—The President shall establish or designate a National Nanotechnology Advisory Panel.

(b) **QUALIFICATIONS.**—The Advisory Panel established or designated by the President under subsection (a) shall consist primarily of members from academic institutions and industry. Members of the Advisory Panel shall be qualified to provide advice and information on nanotechnology research, development, demonstrations, education, technology transfer, commercial application, or societal and ethical concerns. In selecting or designating an Advisory Panel, the President may also seek and give consideration to recommendations from the Congress, industry, the scientific community (including the National Academy of Sciences, scientific professional societies, and academia), the defense community, State and local governments, regional nanotechnology programs, and other appropriate organizations.

(c) **DUTIES.**—The Advisory Panel shall advise the President and the Council on matters relating to the Program, including assessing—

- (1) trends and developments in nanotechnology science and engineering;
- (2) progress made in implementing the Program;
- (3) the need to revise the Program;
- (4) the balance among the components of the Program, including funding levels for the program component areas;
- (5) whether the program component areas, priorities, and technical goals developed by the Council are helping to maintain United States leadership in nanotechnology;
- (6) the management, coordination, implementation, and activities of the Program; and
- (7) whether societal, ethical, legal, environmental, and workforce concerns are adequately addressed by the Program.

(d) **REPORTS.**—The Advisory Panel shall report, not less frequently than once every 2 fiscal years, to the President on its assessments under subsection (c) and its recommendations for ways to improve the Program. The first report under this subsection shall be submitted within 1 year after the date of enactment of this Act. The Director of the Office of Science and Technology Policy shall transmit a copy of each report under this subsection to the Senate Committee on Commerce, Science, and Technology, the House of Representatives Committee on Science, and other appropriate committees of the Congress.

(e) **TRAVEL EXPENSES OF NON-FEDERAL MEMBERS.**—Non-Federal members of the Advisory Panel, while attending meetings of the Advisory Panel or while otherwise serving at the request of the head of the Advisory Panel away from their homes or regular places of business, may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by section 5703 of title

5, United States Code, for individuals in the government serving without pay. Nothing in this subsection shall be construed to prohibit members of the Advisory Panel who are officers or employees of the United States from being allowed travel expenses, including per diem in lieu of subsistence, in accordance with existing law.

(f) EXEMPTION FROM SUNSET.—Section 14 of the Federal Advisory Committee Act shall not apply to the Advisory Panel.

SEC. 5. [15 U.S.C. 7504] TRIENNIAL EXTERNAL REVIEW OF THE NATIONAL NANOTECHNOLOGY PROGRAM.

(a) IN GENERAL.—The Director of the National Nanotechnology Coordination Office shall enter into an arrangement with the National Research Council of the National Academy of Sciences to conduct a triennial evaluation of the Program, including—

(1) an evaluation of the technical accomplishments of the Program, including a review of whether the Program has achieved the goals under the metrics established by the Council;

(2) a review of the Program's management and coordination across agencies and disciplines;

(3) a review of the funding levels at each agency for the Program's activities and the ability of each agency to achieve the Program's stated goals with that funding;

(4) an evaluation of the Program's success in transferring technology to the private sector;

(5) an evaluation of whether the Program has been successful in fostering interdisciplinary research and development;

(6) an evaluation of the extent to which the Program has adequately considered ethical, legal, environmental, and other appropriate societal concerns;

(7) recommendations for new or revised Program goals;

(8) recommendations for new research areas, partnerships, coordination and management mechanisms, or programs to be established to achieve the Program's stated goals;

(9) recommendations on policy, program, and budget changes with respect to nanotechnology research and development activities;

(10) recommendations for improved metrics to evaluate the success of the Program in accomplishing its stated goals;

(11) a review of the performance of the National Nanotechnology Coordination Office and its efforts to promote access to and early application of the technologies, innovations, and expertise derived from Program activities to agency missions and systems across the Federal Government and to United States industry;

(12) an analysis of the relative position of the United States compared to other nations with respect to nanotechnology research and development, including the identification of any critical research areas where the United States should be the world leader to best achieve the goals of the Program; and

(13) an analysis of the current impact of nanotechnology on the United States economy and recommendations for increasing its future impact.

(b) STUDY ON MOLECULAR SELF-ASSEMBLY.—As part of the first triennial review conducted in accordance with subsection (a), the

National Research Council shall conduct a one-time study to determine the technical feasibility of molecular self-assembly for the manufacture of materials and devices at the molecular scale.

(c) **STUDY ON THE RESPONSIBLE DEVELOPMENT OF NANOTECHNOLOGY.**—As part of the first triennial review conducted in accordance with subsection (a), the National Research Council shall conduct a one-time study to assess the need for standards, guidelines, or strategies for ensuring the responsible development of nanotechnology, including, but not limited to—

- (1) self-replicating nanoscale machines or devices;
- (2) the release of such machines in natural environments;
- (3) encryption;
- (4) the development of defensive technologies;
- (5) the use of nanotechnology in the enhancement of human intelligence; and
- (6) the use of nanotechnology in developing artificial intelligence.

(d) **EVALUATION TO BE TRANSMITTED TO CONGRESS.**—The Director of the National Nanotechnology Coordination Office shall transmit the results of any evaluation for which it made arrangements under subsection (a) to the Advisory Panel, the Senate Committee on Commerce, Science, and Transportation and the House of Representatives Committee on Science upon receipt. The first such evaluation shall be transmitted no later than June 10, 2005, with subsequent evaluations transmitted to the Committees every 3 years thereafter.

SEC. 6. [15 U.S.C. 7505] AUTHORIZATION OF APPROPRIATIONS.

(a) **NATIONAL SCIENCE FOUNDATION.**—There are authorized to be appropriated to the Director of the National Science Foundation to carry out the Director's responsibilities under this Act—

- (1) \$385,000,000 for fiscal year 2005;
- (2) \$424,000,000 for fiscal year 2006;
- (3) \$449,000,000 for fiscal year 2007; and
- (4) \$476,000,000 for fiscal year 2008.

(b) **DEPARTMENT OF ENERGY.**—There are authorized to be appropriated to the Secretary of Energy to carry out the Secretary's responsibilities under this Act—

- (1) \$317,000,000 for fiscal year 2005;
- (2) \$347,000,000 for fiscal year 2006;
- (3) \$380,000,000 for fiscal year 2007; and
- (4) \$415,000,000 for fiscal year 2008.

(c) **NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.**—There are authorized to be appropriated to the Administrator of the National Aeronautics and Space Administration to carry out the Administrator's responsibilities under this Act—

- (1) \$34,100,000 for fiscal year 2005;
- (2) \$37,500,000 for fiscal year 2006;
- (3) \$40,000,000 for fiscal year 2007; and
- (4) \$42,300,000 for fiscal year 2008.

(d) **NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.**—There are authorized to be appropriated to the Director of the National Institute of Standards and Technology to carry out the Director's responsibilities under this Act—

- (1) \$68,200,000 for fiscal year 2005;

- (2) \$75,000,000 for fiscal year 2006;
- (3) \$80,000,000 for fiscal year 2007; and
- (4) \$84,000,000 for fiscal year 2008.

(e) ENVIRONMENTAL PROTECTION AGENCY.—There are authorized to be appropriated to the Administrator of the Environmental Protection Agency to carry out the Administrator's responsibilities under this Act—

- (1) \$5,500,000 for fiscal year 2005;
- (2) \$6,050,000 for fiscal year 2006;
- (3) \$6,413,000 for fiscal year 2007; and
- (4) \$6,800,000 for fiscal year 2008.

SEC. 7. [15 U.S.C. 7506] DEPARTMENT OF COMMERCE PROGRAMS.

(a) NIST PROGRAMS.—The Director of the National Institute of Standards and Technology shall—

(1) as part of the Program activities under section 2(b)(7), establish a program to conduct basic research on issues related to the development and manufacture of nanotechnology, including metrology; reliability and quality assurance; processes control; and manufacturing best practices; and

(2) utilize the Manufacturing Extension Partnership program to the extent possible to ensure that the research conducted under paragraph (1) reaches small- and medium-sized manufacturing companies.

(b) CLEARINGHOUSE.—The Secretary of Commerce or his designee, in consultation with the National Nanotechnology Coordination Office and, to the extent possible, utilizing resources at the National Technical Information Service, shall establish a clearinghouse of information related to commercialization of nanotechnology research, including information relating to activities by regional, State, and local commercial nanotechnology initiatives; transition of research, technologies, and concepts from Federal nanotechnology research and development programs into commercial and military products; best practices by government, universities and private sector laboratories transitioning technology to commercial use; examples of ways to overcome barriers and challenges to technology deployment; and use of manufacturing infrastructure and workforce.

SEC. 8. [15 U.S.C. 7507] DEPARTMENT OF ENERGY PROGRAMS.

(a) RESEARCH CONSORTIA.—

(1) DEPARTMENT OF ENERGY PROGRAM.—The Secretary of Energy shall establish a program to support, on a merit-reviewed and competitive basis, consortia to conduct interdisciplinary nanotechnology research and development designed to integrate newly developed nanotechnology and microfluidic tools with systems biology and molecular imaging.

(2) AUTHORIZATION OF APPROPRIATIONS.—Of the sums authorized for the Department of Energy under section 6(b), \$25,000,000 shall be used for each fiscal year 2005 through 2008 to carry out this section. Of these amounts, not less than \$10,000,000 shall be provided to at least 1 consortium for each fiscal year.

(b) RESEARCH CENTERS AND MAJOR INSTRUMENTATION.—The Secretary of Energy shall carry out projects to develop, plan, construct, acquire, operate, or support special equipment, instrumenta-

tion, or facilities for investigators conducting research and development in nanotechnology.

SEC. 9. [15 U.S.C. 7508] ADDITIONAL CENTERS.

(a) **AMERICAN NANOTECHNOLOGY PREPAREDNESS CENTER.**—The Program shall provide for the establishment, on a merit-reviewed and competitive basis, of an American Nanotechnology Preparedness Center which shall—

(1) conduct, coordinate, collect, and disseminate studies on the societal, ethical, environmental, educational, legal, and workforce implications of nanotechnology; and

(2) identify anticipated issues related to the responsible research, development, and application of nanotechnology, as well as provide recommendations for preventing or addressing such issues.

(b) **CENTER FOR NANOMATERIALS MANUFACTURING.**—The Program shall provide for the establishment, on a merit reviewed and competitive basis, of a center to—

(1) encourage, conduct, coordinate, commission, collect, and disseminate research on new manufacturing technologies for materials, devices, and systems with new combinations of characteristics, such as, but not limited to, strength, toughness, density, conductivity, flame resistance, and membrane separation characteristics; and

(2) develop mechanisms to transfer such manufacturing technologies to United States industries.

(c) **REPORTS.**—The Council, through the Director of the National Nanotechnology Coordination Office, shall submit to the Senate Committee on Commerce, Science, and Transportation and the House of Representatives Committee on Science—

(1) within 6 months after the date of enactment of this Act, a report identifying which agency shall be the lead agency and which other agencies, if any, will be responsible for establishing the Centers described in this section; and

(2) within 18 months after the date of enactment of this Act, a report describing how the Centers described in this section have been established.

SEC. 10. [15 U.S.C. 7509] DEFINITIONS.

In this Act:

(1) **ADVISORY PANEL.**—The term “Advisory Panel” means the President’s National Nanotechnology Advisory Panel established or designated under section 4.

(2) **NANOTECHNOLOGY.**—The term “nanotechnology” means the science and technology that will enable one to understand, measure, manipulate, and manufacture at the atomic, molecular, and supramolecular levels, aimed at creating materials, devices, and systems with fundamentally new molecular organization, properties, and functions.

(3) **PROGRAM.**—The term “Program” means the National Nanotechnology Program established under section 2.

(4) **COUNCIL.**—The term “Council” means the National Science and Technology Council or an appropriate subgroup designated by the Council under section 2(c).

(5) **ADVANCED TECHNOLOGY USER FACILITY.**—The term “advanced technology user facility” means a nanotechnology re-

search and development facility supported, in whole or in part, by Federal funds that is open to all United States researchers on a competitive, merit-reviewed basis.

(6) PROGRAM COMPONENT AREA.—The term “program component area” means a major subject area established under section 2(c)(2) under which is grouped related individual projects and activities carried out under the Program.

ACADEMIC RESEARCH FACILITIES MODERNIZATION ACT OF 1988

TITLE II—ACADEMIC RESEARCH FACILITIES MODERNIZATION¹

SHORT TITLE

SEC. 201. [42 U.S.C. 1861 note] This title may be cited as the “Academic Research Facilities Modernization Act of 1988”.

FINDINGS AND PURPOSE

SEC. 202. [42 U.S.C. 1862a] (a) The Congress finds that—

(1) the fundamental research and related education program supported by the Federal Government and conducted by the Nation’s universities and colleges are essential to our national security, and to our health, economic welfare, and general well-being;

(2) many national research and related education programs conducted by universities and colleges are now hindered by obsolete research buildings and equipment, and many institutions lack sufficient resources to repair, renovate, or replace their laboratories;

(3) the Nation’s capacity to conduct high quality research and education programs and to maintain its competitive position at the forefront of modern science, engineering, and technology is threatened by this research capital deficit, which poses serious and adverse consequences to our future national security, health, welfare, and ability to compete in the international marketplace;

(4) a national effort to spur reinvestment in research facilities is needed, and national, State, and local policies and cooperative programs are required that will yield maximum return on the investment of scarce national resources and sustain a commitment to excellence in research and education; and

(5) the Foundation, as part of its responsibility for maintaining the vitality of the Nation’s academic research, and in partnership with the States, industry, and universities and colleges, must assist in enhancing the historic linkages between Federal investment in academic research and training and investment in the research capital base by reinvesting in the capital facilities which modern research and education programs require.

¹This title was enacted as title II of the National Science Foundation Authorization Act of 1988 (Public Law 100-570).

(b) It is the purpose of this title to assist in modernizing and revitalizing the Nation's research facilities at institutions of higher education, independent non-profit research institutions and research museums, and consortia thereof, through capital investment.

ESTABLISHMENT OF PROGRAM

SEC. 203. [42 U.S.C. 1862b] (a)(1) To carry out this title, the Director shall establish and carry out a new Academic Research Facilities Modernization Program (hereafter in this title referred to as the "Program"), under which awards are made to institutions of higher education, independent nonprofit research institutions, and research museums, and consortia thereof, for the repair, renovation, or, in exceptional cases, replacement of obsolete science and engineering facilities primarily devoted to research.

(2) Such awards shall, consistent with the functions of the Foundation set forth in section 3 of the National Science Foundation Act of 1950 (42 U.S.C. 1862) and through established Foundation selection procedures, serve to—

(A) promote the modernization of graduate academic science and engineering research laboratories and related facilities so as to facilitate and support research in the scientific and engineering disciplines;

(B) assist those academic institutions that historically have received relatively little Federal research and development funds to improve their academic science and engineering infrastructures and broaden and strengthen the Nation's science and engineering base; and

(C) promote the modernization of undergraduate academic science and engineering research laboratories and related facilities so as to facilitate and support research in the scientific and engineering disciplines.

(b)(1) The Program shall be carried out through projects which involve the repair, renovation, or, in exceptional cases, replacement of specific science and engineering facilities devoted primarily to research at eligible institutions, or consortia thereof, and for which funds are awarded in response to specific proposals submitted by such eligible institutions or consortia in accordance with procedures prescribed by the Director pursuant to section 204 of this Act.

(2) Awards made under the Program shall not exceed \$7,000,000 to any institution or consortium over any period of 5 years for the repair, renovation, or, in exceptional cases, replacement of academic research facilities.

(3) The Director shall, in making awards under the Program, consider the extent to which that institution or consortium has received funds for the repair, renovation, construction, or replacement of academic facilities from any other Federal funding source within the 5-year period immediately preceding the application. The Director shall give priority to institutions or consortia that have not received such funds in the preceding 5 years.

(4) The Director shall, in awarding funds under this title, consider the distribution of funds among institutions of different sizes and geographical locations.

(c) Criteria for the award of funds to any institution for a project under the Program shall include—

(1) the quality of the research and training to be carried out in the facility or facilities involved;

(2) the need for the proposed repair, renovation, or, in exceptional cases, replacement based on an analysis of the age and condition of existing research facilities and equipment;

(3) the congruence of the institution's research and training activities with the future research needs of the Nation and the research mission of the Foundation;

(4) the contribution that the project will make toward meeting national, regional, and institutional research and related training needs;

(5) in the case of an institution that historically has received relatively little Federal research and development funding, the contribution the proposed project will make to improving the institution's academic scientific and engineering infrastructure and broadening the Nation's science and engineering base; and

(6) the impact of the award on the overall geographic distribution of awards made under the Program, with the objective of avoiding undue concentration of awards.

PROCEDURES, GUIDELINES, AND PLANNING ACTIVITIES

SEC. 204. [42 U.S.C. 1862c] (a)(1) The Director shall, consistent with the objectives of the Program and the criteria set forth in section 203(c) of this Act, set forth procedures for the Program.

(2) The procedures so prescribed shall contain such terms, conditions, and guidelines as may be necessary in the light of Program objectives, but shall in any event provide that—

(A) funds to carry out the Program will be awarded only on the basis of merit after a comprehensive review using established Foundation procedures;

(B) the membership of merit review panels that assess proposals will be broadly representative of eligible institutions, including research universities and predominantly undergraduate and minority institutions;

(C) the institution receiving an award shall provide at least 50 percent of the cost, in cash or in kind, fairly evaluated, of the repair, renovation, or replacement involved and shall provide this contribution from private or non-Federal public sources, except that the Director may accept a match of less than 50 percent, but at least 30 percent, for institutions which are not ranked among the top 100 of the institutions receiving Federal research and development funding, as documented in the latest annual report of the Foundation entitled "Federal Support to Universities, Colleges, and Selected Nonprofit Institutions"; and

(D) to the extent practicable, eligible institutions of a given type will compete against similar institutions for Program awards.

(b) The Director shall conduct comprehensive planning activities, including surveys of research facility needs and other information-gathering activities, necessary to implement the Program and to develop the procedures called for under subsection (a) of this section.

(c) Prior to the issuance of the comprehensive plan required by subsection (d) of this section, and consistent with the Program criteria set forth in section 203(c) of this Act, the Director shall publish in the Federal Register proposed Program guidelines for public review for a comment period of 30 days. Such guidelines shall provide detailed information on eligibility, criteria, terms, and conditions and shall include, but not be limited to—

(1) definitions for the terms “institutions of higher education”, “private non-profit research organizations”, “research museums”, “consortia”, “facilities”, “facilities primarily devoted to research”, “instrumentation”, “equipment”, “repair”, “renovation”, and “replacement”;

(2) selection criteria to be used by the Foundation in evaluating proposals from institutions and consortia thereof, including criteria for evaluating scientific merit and for evaluating the age and condition of existing research facilities; and

(3) requirements for matching a Program award with contributions from non-Federal sources.

(d) The Director, after gathering appropriate information and after considering comments on the proposed Program guidelines published in the Federal Register pursuant to subsection (c) of this section, shall develop a comprehensive plan for the Program that—

(1) defines the appropriate roles and responsibilities of the Federal Government, institutions of higher education, State governments, private foundations, and other appropriate organizations;

(2) states what procedures will be used to ensure that predominantly undergraduate institutions and colleges and universities that historically have received little Federal research and development funding will receive substantial percentages of the funds awarded under this title;

(3) states the estimated percentage of Program funds available for each category of eligible institutions, including predominantly undergraduate institutions and colleges and universities that historically have received little Federal research and development funding as well as research universities; and

(4) evaluates and addresses, to the maximum extent possible, a variety of factors which include—

(A) the unique circumstances and research facilities needs of research universities, undergraduate institutions, and other institutions whose enrollment includes substantial percentages of minorities underrepresented in science and engineering research;

(B) innovative approaches in the management of the Program that address both short-term and long-term aspects of the renovation, repair, and replacement of academic research facilities;

(C) programmatic approaches that recognize and support excellence, strengthen scientific and engineering research potential and, to the maximum extent possible and consistent with the purposes of this Act, assure an equitable distribution of resources with respect to institutions and geographical areas; and

(D) any recommendations necessary to improve the Program and further meet the purposes of this title.

(e) The Director shall prepare and submit, not later than June 15, 1989, a report containing the comprehensive plan required by subsection (d) of this section to the Committee on Labor and Human Resources and the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives¹.

(f) Final guidelines shall be published in the Federal Register not later than 45 days after the submission of the report required under subsection (e).

(g) The Director shall, from amounts available to the Foundation under section 101(b) of this Act for fiscal year 1989, make available an amount, not to exceed \$1,000,000, to carry out the provisions of this section. None of the funds authorized to be appropriated in section 101 of this Act may be used for grant or contract awards under the Program prior to completion and submission to Congress of the comprehensive plan required by subsection (d) of this section.

(h) In conducting the activities under the Program, the Director shall consult with the Secretary of Education and the heads of other related agencies.

SET-ASIDE FOR CERTAIN INSTITUTIONS

SEC. 205. [42 U.S.C. 1862d] Of the amounts appropriated to the Foundation for the Program, as authorized under section 101 of this Act, in each fiscal year, at least 12 percent shall be reserved for historically Black colleges or universities defined as "part B institutions" by section 322(2) of the Higher Education Act of 1965 (20 U.S.C. 1061(2)) and other institutions of higher education whose enrollment includes a substantial percentage of students who are Black Americans, Hispanic Americans, or Native Americans.

CONFORMING AMENDMENT

SEC. 206. Subtitle E of title IV (sections 6401-6403) of the Omnibus Trade and Competitiveness Act of 1988 is repealed.

¹In accordance with section 1(a)(10) of Public Law 104-14 (109 Stat. 187), "the Committee on Science, Space, and Technology of the House of Representatives shall be treated as referring to the Committee on Science of the House of Representatives".

EARTHQUAKE HAZARDS REDUCTION ACT OF 1977

(Public Law 95-124)

AN ACT To reduce the hazards of earthquakes, and for other purposes.

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

SECTION 1. SHORT TITLE.

That this Act may be cited as the "Earthquake Hazards Reduction Act of 1977".

SEC. 2. FINDINGS.

The Congress finds and declares the following:

(1) All 50 States are vulnerable to the hazards of earthquakes, and at least 39 of them are subject to major or moderate seismic risk, including Alaska, California, Hawaii, Illinois, Massachusetts, Missouri, Montana, Nevada, New Jersey, New York, South Carolina, Utah, and Washington. A large portion of the population of the United States lives in areas vulnerable to earthquake hazards.

(2) Earthquakes have caused, and can cause in the future, enormous loss of life, injury, destruction of property, and economic and social disruption. With respect to future earthquakes, such loss, destruction, and disruption can be substantially reduced through the development and implementation of earthquake hazards reduction measures, including (A) improved design and construction methods and practices, (B) land-use controls and redevelopment, (C) prediction techniques and early-warning systems, (D) coordinated emergency preparedness plans, and (E) public education and involvement programs.

(3) An expertly staffed and adequately financed earthquake hazards reduction program, based on Federal, State, local, and private research, planning, decisionmaking, and contributions would reduce the risk of such loss, destruction, and disruption in seismic areas by an amount far greater than the cost of such program.

(4) A well-funded seismological research program in earthquake prediction could provide data adequate for the design, of an operational system that could predict accurately the time, place, magnitude, and physical effects of earthquakes in selected areas of the United States.

(5) The geological study of active faults and features can reveal how recently and how frequently major earthquakes have occurred on those faults and how much risk they pose.

Such long-term seismic risk assessments are needed in virtually every aspect of earthquake hazards management, whether emergency planning, public regulation, detailed building design, insurance rating, or investment decision.

(6) The vulnerability of buildings, lifelines, public works, and industrial and emergency facilities can be reduced through proper earthquake resistant design and construction practices. The economy and efficacy of such procedures can be substantially increased through research and development.

(7) Programs and practices of departments and agencies of the United States are important to the communities they serve; some functions, such as emergency communications and national defense, and lifelines, such as dams, bridges, and public works, must remain in service during and after an earthquake. Federally owned, operated, and influenced structures and lifelines should serve as models for how to reduce and minimize hazards to the community.

(8) The implementation of earthquake hazards reduction measures would, as an added benefit, also reduce the risk of loss, destruction, and disruption from other natural hazards and man-made hazards, including hurricanes, tornadoes, accidents, explosions, landslides, building and structural cave-ins, and fires.

(9) Reduction of loss, destruction, and disruption from earthquakes will depend on the actions of individuals, and organizations in the private sector and governmental units at Federal, State, and local levels. The current capability to transfer knowledge and information to these sectors is insufficient. Improved mechanisms are needed to translate existing information and research findings into reasonable and usable specifications, criteria, and practices so that individuals, organizations, and governmental units may make informed decisions and take appropriate actions.

(10) Severe earthquakes are a worldwide problem. Since damaging earthquakes occur infrequently in any one nation, international cooperation is desirable for mutual learning from limited experiences.

(11) An effective Federal program in earthquake hazard reduction will require input from and review by persons outside the Federal Government expert in the sciences of earthquake hazards reduction and in the practical application of earthquake hazards reduction measures.

(42 U.S.C. 7701)

SEC. 3. PURPOSE.

It is the purpose of the Congress in this Act to reduce the risks of life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards reduction program. The objectives of such program shall include—

(1) the education of the public, including State and local officials, as to earthquake phenomena, the identification of locations and structures which are especially susceptible to earthquake damage, ways to reduce the adverse consequences of an earthquake, and related matters;

(2) the development of technologically and economically feasible design and construction methods and procedures to make new and existing structures, in areas of seismic risk, earthquake resistant, giving priority to the development of such methods and procedures for power generating plants, dams, hospitals, schools, public utilities and other lifelines, public safety structures, high occupancy buildings, and other structures which are especially needed in time of disaster;

(3) the implementation to the greatest extent practicable, in all areas of high or moderate seismic risk, of a system (including personnel, technology, and procedures) for predicting damaging earthquakes and for identifying, evaluating, and accurately characterizing seismic hazards;

(4) the development, publication, and promotion, in conjunction with State and local officials and professional organizations, of model building codes and other means to encourage consideration of information about seismic risk in making decisions about land-use policy and construction activity;

(5) the development, in areas of seismic risk, of improved understanding of, and capability with respect to, earthquake-related issues, including methods of mitigating the risks from earthquakes, planning to prevent such risks, disseminating warnings of earthquakes, organization emergency services, and planning for reconstruction and redevelopment after an earthquake;

(6) the development of ways to increase the use of existing scientific and engineering knowledge to mitigate earthquake hazards; and

(7) the development of ways to assure the availability of affordable earthquake insurance.

(42 U.S.C. 7702)

SEC. 4. DEFINITIONS.

As used in this Act, unless the context otherwise requires:

(1) The term "includes" and variants thereof should be read as if the phrase "but is not limited to" were also set forth.

(2) The term "Program" means the National Earthquake Hazards Reduction Program established under section 5.

(3) The term "seismic" and variants thereof mean having to do with, or caused by earthquakes.

(4) The term "State" means each of the States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the commonwealth of the Mariana Islands, and any other territory or possession of the United States.

(5) The term "United States" means, when used in geographical sense, all of the States as defined in section 4(4).

(6) The term "lifelines" means public works and utilities, including transportation facilities and infrastructure, oil and gas pipelines, electrical power and communication facilities and infrastructure, and water supply and sewage treatment facilities.

(7) The term "Program agencies" means the Federal Emergency Management Agency, the United States Geological Sur-

vey, the National Science Foundation, and the National Institute of Standards and Technology.

(42 U.S.C. 7703)

SEC. 5. NATIONAL EARTHQUAKE HAZARDS REDUCTION PROGRAM.

(a) **ESTABLISHMENT.**—There is established a National Earthquake Hazards Reduction Program.

(b) **RESPONSIBILITIES OF PROGRAM AGENCIES.**—

(1) **LEAD AGENCY.**—The Federal Emergency Management Agency (hereafter in this Act referred to as the “Agency”) shall have the primary responsibility for planning and coordinating the Program. In carrying out this paragraph, the Director of the Agency shall—

(A) ensure that the Program includes the necessary steps to promote the implementation of earthquake hazard reduction measures by Federal, State, and local governments, national standards and model building code organizations, architects and engineers, and others with a role in planning and constructing buildings and lifelines;

(B) prepare, in conjunction with the other Program agencies, a written plan for the Program, which shall include specific tasks and milestones for each Program agency, and which shall be submitted to the Congress and updated at such times as may be required by significant Program events, but in no event less frequently than every 3 years;

(C) prepare, in conjunction with the other Program agencies, a biennial report, to be submitted to the Congress within 90 days after the end of each even-numbered fiscal year, which shall describe the activities and achievements of the Program during the preceding two fiscal years;

(D) request the assistance of Federal agencies other than the Program agencies, as necessary to assist in carrying out this Act; and

The principal official carrying out the responsibilities described in this paragraph shall be at a level no lower than that of Associate Director.

(E)¹ work with the National Science Foundation, the National Institute of Standards and Technology, and the United States Geological Survey, to develop a comprehensive plan for earthquake engineering research to effectively use existing testing facilities and laboratories (existing at the time of the development of the plan), upgrade facilities and equipment as needed, and integrate new, innovative testing approaches to the research infrastructure in a systematic manner.

(2) **FEDERAL EMERGENCY MANAGEMENT AGENCY.**—

(A) **PROGRAM RESPONSIBILITIES.**—In addition to the lead agency responsibilities described in paragraph (1), the Director of the Agency shall—

¹So in law. Section 3(b)(3) of Public Law 105-47 (111 Stat. 1163) added this subparagraph “at the end” of section 5(b)(1) of the Earthquake Hazards Reduction Act of 1977. The amendment probably should have inserted after last subparagraph.

(i) operate a program of grants and technical assistance which would enable States to develop preparedness and response plans, prepare inventories and conduct seismic safety inspections of critical structures and lifelines, update building and zoning codes and ordinances to enhance seismic safety, increase earthquake awareness and education, and encourage the development of multi-State groups for such purposes;

(ii) prepare and execute, in conjunction with the Program agencies, the Department of Education, other Federal agencies, and private sector groups, a comprehensive earthquake education and public awareness program, to include development of materials and their wide dissemination to schools and the general public, and development of means of increasing public access to available locality-specific information that may assist the public in preparing for or responding to earthquakes;

(iii) prepare and disseminate widely, with the assistance of the National Institute of Standards and Technology, other Federal agencies, and private sector groups, information on building codes and practices for structures and lifelines;

(iv) develop, and coordinate the execution of, Federal interagency plans to respond to an earthquake, with specific plans for each high-risk area which ensure the availability of adequate emergency medical resources, search and rescue personnel and equipment, and emergency broadcast capability;

(v) develop approaches to combine measures for earthquake hazards reduction with measures for reduction of other natural and technological hazards; and

(vi) provide response recommendations to communities after an earthquake prediction has been made under paragraph (3)(D).

In addition, the Director of the Agency may enter into cooperative agreements or contracts with States and local jurisdictions to establish demonstration projects on earthquake hazard mitigation, to link earthquake research and mitigation efforts with emergency management programs, or to prepare educational materials for national distribution.

(B) STATE ASSISTANCE PROGRAM CRITERIA.—In order to qualify for assistance under subparagraph (A)(i), a State must—

(i) demonstrate that the assistance will result in enhanced seismic safety in the State;

(ii) provide a share of the costs of the activities for which assistance is being given, in accordance with subparagraph (C); and

(iii) meet such other requirements as the Director of the Agency shall prescribe.

(C) NON-FEDERAL COST SHARING.—

(i) In the case of any State which has received, before October 1, 1990, a grant from the Agency for activities under this Act which included a requirement for cost sharing by matching such grant, any grant obtained from the Agency for activities under subparagraph (A)(i) after such date shall not include a requirement for cost sharing in an amount greater than 50 percent of the cost of the project for which the grant is made.

(ii) In the case of any State which has not received, before October 1, 1990, a grant from the Agency for activities under this Act which included a requirement for cost sharing by matching such grant, any grant obtained from the Agency for activities under subparagraph (A)(i) after such date—

(I) shall not include a requirement for cost sharing for the first fiscal year of such a grant;

(II) shall not include a requirement for cost sharing in an amount greater than 25 percent of the cost of the project for which the grant is made for the second fiscal year of such grant, and any cost sharing requirement may be satisfied through in-kind contributions;

(III) shall not include a requirement for cost sharing in an amount greater than 35 percent of the cost of the project for which the grant is made for the third fiscal year of such grant, and any cost sharing requirement may be satisfied through in-kind contributions; and

(IV) shall not include a requirement for cost sharing in an amount greater than 50 percent of the cost of the project for which the grant is made for the fourth and subsequent fiscal years of such grant.

(3) UNITED STATES GEOLOGICAL SURVEY.—The United States Geological Survey shall conduct research necessary to characterize and identify earthquake hazards, assess earthquake risks, monitor seismic activity, and improve earthquake predictions. In carrying out this paragraph, the Director of the United States Geological Survey shall—

(A) conduct a systematic assessment of the seismic risks in each region of the Nation prone to earthquakes, including, where appropriate, the establishment and operation of intensive monitoring projects on hazardous faults, seismic microzonation studies in urban and other developed areas where earthquake risk is determined to be significant, and engineering seismology studies;

(B) work with officials of State and local governments to ensure that they are knowledgeable about the specific seismic risks in their areas;

(C) develop standard procedures, in consultation with the Agency, for issuing earthquake predictions, including aftershock advisories;

(D) issue when necessary, and notify the Director of the Agency of, an earthquake prediction or other earth-

quake advisory, which may be evaluated by the National Earthquake Prediction Evaluation Council, which shall be exempt from the requirements of section 10(a)(2) of the Federal Advisory Committee Act when meeting for such purposes;

(E) establish, using existing facilities, a Center for the International Exchange of Earthquake Information which shall—

(i) promote the exchange of information on earthquake research and earthquake preparedness between the United States and other nations;

(ii) maintain a library containing selected reports, research papers, and data produced through the Program;

(iii) answer requests from other nations for information on United States earthquake research and earthquake preparedness programs; and

(iv) direct foreign requests to the agency involved in the Program which is best able to respond to the request;

(F) operate a National Seismic Network;

(G) support regional seismic networks, which shall complement the National Seismic Network; and

(H) work with the National Science Foundation, the Federal Emergency Management Agency, and the National Institute of Standards and Technology to develop a comprehensive plan for earthquake engineering research to effectively use existing testing facilities and laboratories (in existence at the time of the development of the plan), upgrade facilities and equipment as needed, and integrate new, innovative testing approaches to the research infrastructure in a systematic manner.

(4) NATIONAL SCIENCE FOUNDATION.—The National Science Foundation shall be responsible for funding research on earth sciences to improve the understanding of the causes and behavior of earthquakes, on earthquake engineering, and on human response to earthquakes. In carrying out this paragraph, the Director of the National Science Foundation shall—

(A) encourage prompt dissemination of significant findings, sharing of data, samples, physical collections, and other supporting materials, and development of intellectual property so research results can be used by appropriate organizations to mitigate earthquake damage;

(B) in addition to supporting individual investigators, support university research consortia and centers for research in geosciences and in earthquake engineering;

(C) work closely with the United States Geological Survey to identify geographic regions of national concern that should be the focus of targeted solicitations for earthquake-related research proposals;

(D) emphasize, in earthquake engineering research, development of economically feasible methods to retrofit existing buildings and to protect lifelines to mitigate earthquake damage;

(E) support research that studies the political, economic, and social factors that influence the implementation of hazard reduction measures; and

(F) develop, in conjunction with the Federal Emergency Management Agency, the National Institute of Standards and Technology, and the United States Geological Survey, a comprehensive plan for earthquake engineering research to effectively use existing testing facilities and laboratories (in existence at the time of the development of the plan), upgrade facilities and equipment as needed, and integrate new, innovative testing approaches to the research infrastructure in a systematic manner.

(5) NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.—The National Institute of Standards and Technology shall be responsible for carrying out research and development to improve building codes and standards and practices for structures and lifelines. In carrying out this paragraph, the Director of the National Institute of Standards and Technology shall—

(A) work closely with national standards and model building code organizations, in conjunction with the Agency, to promote the implementation of research results;

(B) promote better building practices among architects and engineers;

(C) work closely with national standards organizations to develop seismic safety standards and practices for new and existing lifelines; and

(D) work with the National Science Foundation, the Federal Emergency Management Agency, and the United States Geological Survey to develop a comprehensive plan for earthquake engineering research to effectively use existing testing facilities and laboratories (in existence at the time of the development of the plan), upgrade facilities and equipment as needed, and integrate new, innovative testing approaches to the research infrastructure in a systematic manner.

(c) BUDGET COORDINATION.—

(1) GUIDANCE.—The Agency shall each year provide guidance to the other Program agencies concerning the preparation of requests for appropriations for activities related to the Program, and shall prepare, in conjunction with the other Program agencies, an annual Program budget to be submitted to the Office of Management and Budget.

(2) REPORTS.—Each Program agency shall include with its annual request for appropriations submitted to the Office of Management and Budget a report that—

(A) identifies each element of the proposed Program activities of the agency;

(B) specifies how each of these activities contributes to the Program; and

(C) states the portion of its request for appropriations allocated to each element of the Program.

[Sec. 7. Repealed by section 4 of P.L. 105-47, 111 Stat. 1164]

SEC. 8. SEISMIC STANDARDS.

(a) BUILDINGS.—

(1) ADOPTION OF STANDARDS.—The President shall adopt, not later than December 1, 1994, standards for assessing and enhancing the seismic safety of existing buildings constructed for or leased by the Federal Government which were designed and constructed without adequate seismic design and construction standards. Such standards shall be developed by the Interagency Committee on Seismic Safety in Construction, whose chairman is the Director of the National Institute of Standards and Technology or his designee, and which shall work in consultation with appropriate private sector organizations.

(2) REPORT TO CONGRESS.—The President shall report to the Congress, not later than December 1, 1994, on how the standards adopted under paragraph (1) could be applied with respect to buildings—

(A) for which Federal financial assistance has been obtained through grants, loans, financing guarantees, or loan or mortgage insurance programs; or

(B) the structural safety of which is regulated by a Federal agency.

(3) REGULATIONS.—The President shall ensure the issuance, before February 1, 1993, by all Federal agencies of final regulations required by section 4(b) of Executive Order numbered 12699, issued January 5, 1990.

(b) LIFELINES.—The Director of the Agency, in consultation with the Director of the National Institute of Standards and Technology, shall submit to the Congress, not later than June 30, 1992, a plan, including precise timetables and budget estimates, for developing and adopting, in consultation with appropriate private sector organizations, design and construction standards for lifelines. The plan shall include recommendations of ways Federal regulatory authority could be used to expedite the implementation of such standards.

(42 U.S.C. 7705b)

SEC. 9. ACCEPTANCE OF GIFTS.

(a) AUTHORITY.—In furtherance of the purposes of this Act, the Director of the Agency may accept and use bequests, gifts, or donations of services, money, or property, notwithstanding section 3679 of the Revised Statutes (31 U.S.C. 1342).

(b) CRITERIA.—The Director of the Agency shall establish by regulation criteria for determining whether to accept bequests, gifts, or donations of services, money, or property. Such criteria shall take into consideration whether the acceptance of the bequest, gift, or donation would reflect unfavorably on the Director's ability to carry out his responsibilities in a fair and objective manner, or would compromise the integrity of, or the appearance of the integrity of, the Program or any official involved in administering the Program.

(42 U.S.C. 7705c)

[Sec. 10. Repealed by section 203 of P.L. 106-503 (114 Stat. 2305).]

SEC. 11. POST-EARTHQUAKE INVESTIGATIONS PROGRAM.

There is established within the United States Geological Survey a post-earthquake investigations program, the purpose of which is to investigate major earthquakes, so as to learn lessons which can be applied to reduce the loss of lives and property in future earthquakes. The United States Geological Survey, in consultation with each Program agency, shall organize investigations to study the implications of the earthquake in the areas of responsibility of each Program agency. The investigations shall begin as rapidly as possible and may be conducted by grantees and contractors. The Program agencies shall ensure that the results of investigations are disseminated widely. The Director of the Survey is authorized to utilize earthquake expertise from the Agency, the National Science Foundation, the National Institute of Standards and Technology, other Federal agencies, and private contractors, on a reimbursable basis, in the conduct of such earthquake investigations. At a minimum, investigations under this section shall include—

(1) analysis by the National Science Foundation and the United States Geological Survey of the causes of the earthquake and the nature of the resulting ground motion;

(2) analysis by the National Science Foundation and the National Institute of Standards and Technology of the behavior of structures and lifelines, both those that were damaged and those that were undamaged; and

(3) analysis by each of the Program agencies of the effectiveness of the earthquake hazards mitigation programs and actions relating to its area of responsibility under the Program, and how those programs and actions could be strengthened.

(42 U.S.C. 7705e)

SEC. 12. AUTHORIZATION OF APPROPRIATIONS.

(a)(1) GENERAL.—There are authorized to be appropriated to the President to carry out the provisions of section 5 and 6 of this Act (in addition to any authorizations for similar purposes included in other Acts and the authorizations set forth in subsections (b) and (c) of this section), not to exceed \$1,000,000 for the fiscal year ending September 30, 1978, not to exceed \$2,000,000 for the fiscal year ending September 30, 1979, and not to exceed \$2,000,000 for the fiscal year ending September 30, 1980.

(2) There are authorized to be appropriated to the Director to carry out the provisions of sections 5 and 6 of this Act for the fiscal year ending September 30, 1981—

(A) \$1,000,000 for continuation of the Interagency Committee on Seismic Safety in Construction and the Building Seismic Safety Council programs,

(B) \$1,500,000 for plans and preparedness for earthquake disasters,

(C) \$500,000 for prediction response planning,

(D) \$600,000 for architectural and engineering planning and practice programs,

(E) \$1,000,000 for development and application of a public education program,

(F) \$3,000,000 for use by the National Science Foundation in addition to the amount authorized to be appropriated under subsection (c), which amount includes \$2,400,000 for earthquake policy research and \$600,000 for the strong ground motion element of the siting program, and

(G) \$1,000,000 for use by the Center for Building Technology, National Bureau of Standards in addition to the amount authorized to be appropriated under subsection (d) for earthquake activities in the Center.

(3) There are authorized to be appropriated to the Director for the fiscal year ending September 30, 1982, \$2,000,000 to carry out the provisions of section 5 and 6 of this Act.

(4) There are authorized to be appropriated to the Director, to carry out the provisions of section 5 and 6 of this Act, \$1,281,000 for the fiscal year ending September 30, 1983.

(5) There are authorized to be appropriated to the Director, to carry out the provisions of section 5 and 6 of this Act, for the fiscal year ending September 30, 1984, \$3,705,000 and for the fiscal year ending September 30, 1985, \$6,096,000.

(6) There are authorized to be appropriated to the Director, to carry out the provisions of section 5 and 6 of this Act, for the fiscal year ending September 30, 1986, \$5,596,000, and for the fiscal year ending September 30, 1987, \$5,848,000.

(7) There are authorized to be appropriated to the Director of the Agency, to carry out this Act, \$5,778,000 for the fiscal year ending September 30, 1988, \$5,788,000 for the fiscal year ending September 30, 1989, \$8,798,000 for the fiscal year ending September 30, 1990, \$14,750,000 for the fiscal year ending September 30, 1991, \$19,000,000 for the fiscal year ending September 30, 1992, \$22,000,000 for the fiscal year ending September 30, 1993, \$25,000,000 for the fiscal year ending September 30, 1995, \$25,750,000 for the fiscal year ending September 30, 1996, \$20,900,000 for the fiscal year ending September 30, 1998, \$21,500,000 for the fiscal year ending September 30, 1999; \$19,861,000 for the fiscal year ending September 30, 2001, of which \$450,000 is for National Earthquake Hazard Reduction Program-eligible efforts of an established multi-state consortium to reduce the unacceptable threat of earthquake damages in the New Madrid seismic region through efforts to enhance preparedness, response, recovery, and mitigation; \$20,705,000 for the fiscal year ending September 30, 2002; and \$21,585,000 for the fiscal year ending September 30, 2003.

(b) GEOLOGICAL SURVEY.—There are authorized to be appropriated to the Secretary of the Interior for purposes for carrying out, through the Director of the United States Geological Survey, the responsibilities that may be assigned to the Director under this Act not to exceed \$27,500,000 for the fiscal year ending September 30, 1978; not to exceed \$35,000,000 for the fiscal year ending September 30, 1979; not to exceed \$40,000,000 for the fiscal year ending September 30, 1980; \$32,484,000 for the fiscal year ending September 30, 1981; \$34,425,000 for the fiscal year ending September 30, 1982; \$31,843,000 for the fiscal year ending September 30, 1983; \$35,524,000 for the fiscal year ending September 30, 1984;

\$37,300,200 for the fiscal year ending September 30, 1985¹
\$35,578,000 for the fiscal year ending September 30, 1986;
\$37,179,000 for the fiscal year ending September 30, 1987;
\$38,540,000 for the fiscal year ending September 30, 1988;
\$41,819,000 for the fiscal year ending September 30, 1989;
\$55,283,000 for the fiscal year ending September 30, 1990, of which
\$8,000,000 shall be for earthquake investigations under section 11;
\$50,000,000 for the fiscal year ending September 30, 1991;
\$54,500,000 for the fiscal year ending September 30, 1992;
\$62,500,000 for the fiscal year ending September 30, 1993;
\$49,200,000 for the fiscal year ending September 30, 1995;
\$50,676,000 for the fiscal year ending September 30, 1996;
\$52,565,000 for the fiscal year ending September 30, 1998, of which
\$3,800,000 shall be used for the Global Seismic Network operated
by the Agency; and \$54,052,000 for the fiscal year ending Sep-
tember 30, 1999, of which \$3,800,000 shall be used for the Global
Seismic Network operated by the Agency. There are authorized to
be appropriated to the Secretary of the Interior for purposes of car-
rying out, through the Director of the United States Geological Sur-
vey, the responsibilities that may be assigned to the Director under
this Act \$48,360,000 for fiscal year 2001, of which \$3,500,000 is for
the Global Seismic Network and \$100,000 is for the Scientific
Earthquake Studies Advisory Committee established under section
210 of the Earthquake Hazards Reduction Authorization Act of
2000; \$50,415,000 for fiscal year 2002, of which \$3,600,000 is for
the Global Seismic Network and \$100,000 is for the Scientific
Earthquake Studies Advisory Committee; and \$52,558,000 for fiscal
year 2003, of which \$3,700,000 is for the Global Seismic Network
and \$100,000 is for the Scientific Earthquake Studies Advisory
Committee. Of the amounts authorized to be appropriated under
this subsection, at least—

(1) \$8,000,000 of the amount authorized to be appropriated
for the fiscal year ending September 30, 1998;

(2) \$8,250,000 of the amount authorized for the fiscal year
ending September 30, 1999;

(3) \$9,000,000 of the amount authorized to be appropriated
for fiscal year 2001;

(4) \$9,250,000 of the amount authorized to be appropriated
for fiscal year 2002; and

(5) \$9,500,000 of the amount authorized to be appropriated
for fiscal year 2003,

shall be used for carrying out a competitive, peer-reviewed program
under which the Director, in close coordination with and as a com-
plement to related activities of the United States Geological Sur-
vey, awards grants to, or enters into cooperative agreements with,
State and local governments and persons or entities from the ac-
ademic community and the private sector.

(c) NATIONAL SCIENCE FOUNDATION.—To enable the Founda-
tion to carry out responsibilities that may be assigned to it under
this Act, there are authorized to be appropriated to the Foundation
not to exceed \$27,500,000 for the fiscal year ending September 30,
1978; not to exceed \$35,000,000 for the fiscal year ending Sep-
tember 30, 1979; not to exceed \$40,000,000 for the first year ending

¹So in law. Probably should have a semicolon.

September 30, 1980; \$26,600,000 for the fiscal year ending September 30, 1981; \$27,150,000 for the fiscal year ending September 30, 1982; \$25,000,000 for the fiscal year ending September 30, 1983; \$25,800,000 for the fiscal year ending September 30, 1984; \$28,665,000 for the fiscal year ending September 30, 1985¹; \$27,760,000 for the fiscal year ending September 30, 1986; \$29,009,000 for the fiscal year ending September 30, 1987; \$28,235,000 for the fiscal year ending September 30, 1988; \$31,634,000 for the fiscal year ending September 30, 1989;² \$38,454,000 for the fiscal year ending September 30, 1990. Of the amounts authorized for Engineering under section 101(d)(1)(B) of the National Science Foundation Authorization Act of 1988, \$24,000,000 is authorized for carrying out this Act for the fiscal year ending September 30, 1991, and of the amounts authorized for Geosciences under section 101(d)(1)(D) of the National Science Foundation Authorization Act of 1988, \$13,000,000 is authorized for carrying out this Act for the fiscal year ending September 30, 1991. Of the amounts authorized for Research and Related Activities under section 101(e)(1) of the National Science Foundation Authorization Act of 1988, \$29,000,000 is authorized for engineering research under this Act, and \$14,750,000 is authorized for geosciences research under this Act, for the fiscal year ending September 30, 1992. Of the amounts authorized for Research and Related Activities under section 101(f)(1) of the National Science Foundation Authorization Act of 1988, \$34,500,000 is authorized for engineering research under this Act, and \$17,500,000 is authorized for geosciences research under this Act, for the fiscal year ending September 30, 1993. There are authorized to be appropriated, out of funds otherwise authorized to be appropriated to the National Science Foundation: (1) \$16,200,000 for engineering research and \$10,900,000 for geosciences research for the fiscal year ending September 30, 1995, (2) \$16,686,000 for engineering research and \$11,227,000 for geosciences research for the fiscal year ending September 30, 1996, (3) \$18,450,000 for engineering research and \$11,920,000 for geosciences research for the fiscal year ending September 30, 1998, (4) \$19,000,000 for engineering research and \$12,280,000 for geosciences research for the fiscal year ending September 30, 1999. There are authorized to be appropriated to the National Science Foundation \$19,000,000 for engineering research and \$11,900,000 for geosciences research for fiscal year 2001; \$19,808,000 for engineering research and \$12,406,000 for geosciences research for fiscal year 2002; and \$20,650,000 for engineering research and \$12,933,000 for geosciences research for fiscal year 2003.

(d) NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY³.—To enable the National Institute of Standards and Technology to carry out responsibilities that may be assigned to it under this Act, there are authorized to be appropriated \$425,000 for the fiscal year ending September 30, 1981; \$425,000 for the fiscal year ending September 30, 1982; \$475,000 for the fiscal year ending September 30, 1983; \$475,000 for the fiscal year ending

¹ So in law. Probably should have a semicolon.

² So in law. Probably should have "and".

³ Section 12(4)(A) of P.L. 101-614, 104 Stat. 3240, amended the heading of subsection (d). The amendment probably used the wrong size type.

September 30, 1984; \$498,750 for the fiscal year ending September 30, 1985¹ \$499,000 for the fiscal year ending September 30, 1986; \$521,000 for the fiscal year ending September 30, 1987; \$525,000 for the fiscal year ending September 30, 1988; \$525,000 for the fiscal year ending September 30, 1989; \$2,525,000 for the fiscal year ending September 30, 1990; \$1,000,000 for the fiscal year ending September 30, 1991; \$3,000,000 for the fiscal year ending September 30, 1992; and \$4,750,000 for the fiscal year ending September 30, 1993. There are authorized to be appropriated, out of funds otherwise authorized to be appropriated to the National Institute of Standards and Technology, \$1,900,000 for the fiscal year ending September 30, 1995, \$1,957,000 for the fiscal year ending September 30, 1996, \$2,000,000 for the fiscal year ending September 30, 1998, \$2,060,000 for the fiscal year ending September 30, 1999, \$2,332,000 for fiscal year 2001, \$2,431,000 for fiscal year 2002, and \$2,534,300 for fiscal year 2003.

(42 U.S.C. 7706)

SEC. 13. ADVANCED NATIONAL SEISMIC RESEARCH AND MONITORING SYSTEM.

(a) ESTABLISHMENT.—The Director of the United States Geological Survey shall establish and operate an Advanced National Seismic Research and Monitoring System. The purpose of such system shall be to organize, modernize, standardize, and stabilize the national, regional, and urban seismic monitoring systems in the United States, including sensors, recorders, and data analysis centers, into a coordinated system that will measure and record the full range of frequencies and amplitudes exhibited by seismic waves, in order to enhance earthquake research and warning capabilities.

(b) MANAGEMENT PLAN.—Not later than 90 days after the date of the enactment of the Earthquake Hazards Reduction Authorization Act of 2000, the Director of the United States Geological Survey shall transmit to the Congress a 5-year management plan for establishing and operating the Advanced National Seismic Research and Monitoring System. The plan shall include annual cost estimates for both modernization and operation, milestones, standards, and performance goals, as well as plans for securing the participation of all existing networks in the Advanced National Seismic Research and Monitoring System and for establishing new, or enhancing existing, partnerships to leverage resources.

(c) AUTHORIZATION OF APPROPRIATIONS.—

(1) EXPANSION AND MODERNIZATION.—In addition to amounts appropriated under section 12(b), there are authorized to be appropriated to the Secretary of the Interior, to be used by the Director of the United States Geological Survey to establish the Advanced National Seismic Research and Monitoring System—

- (A) \$33,500,000 for fiscal year 2002;
- (B) \$33,700,000 for fiscal year 2003;
- (C) \$35,100,000 for fiscal year 2004;
- (D) \$35,000,000 for fiscal year 2005; and
- (E) \$33,500,000 for fiscal year 2006.

¹ So in law. Probably should have a semicolon.

(2) OPERATION.—In addition to amounts appropriated under section 12(b), there are authorized to be appropriated to the Secretary of the Interior, to be used by the Director of the United States Geological Survey to operate the Advanced National Seismic Research and Monitoring System—

(A) \$4,500,000 for fiscal year 2002; and

(B) \$10,300,000 for fiscal year 2003.

(42 U.S.C. 7707)

SEC. 14. NETWORK FOR EARTHQUAKE ENGINEERING SIMULATION.

(a) ESTABLISHMENT.—The Director of the National Science Foundation shall establish the George E. Brown, Jr. Network for Earthquake Engineering Simulation that will upgrade, link, and integrate a system of geographically distributed experimental facilities for earthquake engineering testing of full-sized structures and their components and partial-scale physical models. The system shall be integrated through networking software so that integrated models and databases can be used to create model-based simulation, and the components of the system shall be interconnected with a computer network and allow for remote access, information sharing, and collaborative research.

(b) AUTHORIZATION OF APPROPRIATIONS.—In addition to amounts appropriated under section 12(c), there are authorized to be appropriated to the National Science Foundation for the George E. Brown, Jr. Network for Earthquake Engineering Simulation—

(1) \$28,200,000 for fiscal year 2001;

(2) \$24,400,000 for fiscal year 2002;

(3) \$4,500,000 for fiscal year 2003; and

(4) \$17,000,000 for fiscal year 2004.

(42 U.S.C. 7708)

FEDERAL FIRE PREVENTION AND CONTROL ACT OF 1974

(Public Law 93-498)

AN ACT To reduce losses of life and property, through better fire prevention and control, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Federal Fire Prevention and Control Act of 1974".

(15 U.S.C. 2201 note)

FINDINGS

SEC. 2. The Congress finds that—

(1) The National Commission on Fire Prevention and Control, established pursuant to Public Law 90-259, has made an exhaustive and comprehensive examination of the Nation's fire problem, has made detailed findings as to the extent of this problem in terms of human suffering and loss of life and property, and has made ninety thoughtful recommendations.

(2) The United States today has the highest per capita rate of death and property loss from fire of all the major industrialized nations in the world.

(3) Fire is an undue burden affecting all Americans, and fire also constitutes a public health and safety problem of great dimensions. Fire kills 12,000 and scars and injures 300,000 Americans each year, including 50,000 individuals who require extended hospitalization. Almost \$3 billion worth of property is destroyed annually by fire, and the total economic cost of destructive fire in the United States is estimated conservatively to be \$11,000,000,000 per year. Firefighting is the Nation's most hazardous profession.

(4) Such losses of life and property from fire are unacceptable to the Congress.

(5) While fire prevention and control is and should remain a State and local responsibility, the Federal Government must help if a significant reduction in fire losses is to be achieved.

(6) The fire service and the civil defense program in each locality would both benefit from closer cooperation.

(7) The Nation's fire problem is exacerbated by (A) the indifference with which some Americans confront the subject; (B) the Nation's failure to undertake enough research and development into fire and fire-related problems; (C) the scarcity of reliable data and information; (D) the fact that designers and purchasers of buildings and products generally give insufficient attention to fire safety; (E) the fact that many communities lack adequate building and fire

prevention codes; and (F) the fact that local fire departments spend about 95 cents of every dollar appropriated to the fire services on efforts to extinguish fires and only about 5 cents on fire prevention.

(8) There is a need for improved professional training and education oriented toward improving the effectiveness of the fire services, including an increased emphasis on preventing fires and on reducing injuries to firefighters.

(9) A national system for the collection, analysis, and dissemination of fire data is needed to help local fire services establish research and action priorities.

(10) The number of specialized medical centers which are properly equipped and staffed for the treatment of burns and the rehabilitation of victims of fires is inadequate.

(11) The unacceptably high rates of death, injury, and property loss from fire can be reduced if the Federal Government establishes a coordinated program to support and reinforce the fire prevention and control activities of State and local governments.

(15 U.S.C. 2201)

PURPOSES

SEC. 3. It is declared to be the purpose of Congress in this Act to—

(1) reduce the Nation's losses caused by fire through better fire prevention and control;

(2) supplement existing programs of research, training, and education, and to encourage new and improved programs and activities by State and local governments;

(3) establish the United States Fire Administration and the Fire Research Center within the Department of Commerce; and

(4) establish an intensified program of research into the treatment of burn and smoke injuries and the rehabilitation of victims of fires within the National Institutes of Health.

(15 U.S.C. 2202)

DEFINITIONS

SEC. 4. As used in this Act, the term—

(1) "Academy" means the National Academy for Fire Prevention and Control;

(2) "Administration" means the United States Fire Administration established pursuant to section 5 of this Act;

(3) "Administrator" means the Administrator of the United States Fire Administration;

(4) "Director" means the Director of the Federal Emergency Management Agency;

(5) "fire service" means any organization in any State consisting of personnel, apparatus, and equipment which has as its purpose protecting property and maintaining the safety and welfare of the public from the dangers of fire, including a private firefighting brigade. The personnel of any such organization may be paid employees or unpaid volunteers or any combination thereof. The location of any such organization and its responsibility for extinguishment and suppression of fires may include, but need not be limited to, a Federal installation, a

State, city, town, borough, parish, county, fire district, fire protection district, rural fire district, or other special district. The terms "fire prevention", "firefighting", and "firecontrol" relate to activities conducted by a fire service;

(6) "local" means of or pertaining to any city, town, county, special purpose district, unincorporated territory, or other political subdivision of a State;

(7) "place of public accommodation affecting commerce" means any inn, hotel, or other establishment not owned by the Federal Government that provides lodging to transient guests, except that such term does not include an establishment treated as an apartment building for purposes of any State or local law or regulation or an establishment located within a building that contains not more than 5 rooms for rent or hire and that is actually occupied as a residence by the proprietor of such establishment; and

(8) "State" means any State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, the Canal Zone, Guam, American Samoa, the Trust Territory of the Pacific Islands and any other territory or possession of the United States.

(15 U.S.C. 2203)

ESTABLISHMENT OF THE UNITED STATES FIRE ADMINISTRATION

SEC. 5. (a) ESTABLISHMENT OF ADMINISTRATION.—There is hereby established in the Department of Commerce an agency which shall be known as the United States Fire Administration.

(b) ADMINISTRATOR.—There shall be at the head of the Administration the Administrator of the United States Fire Administration. The Administrator shall be appointed by the President, by and with the advice and consent of the Senate, and shall be compensated at the rate now or hereafter provided for level IV of the Executive Schedule pay rates (5 U.S.C. 5315). The Administrator shall report and be responsible to the Director.

(c) DEPUTY ADMINISTRATOR.—There shall be in the Administration of the United States Fire Administration a Deputy Administrator who shall be appointed by the President, by and with the advice and consent of the Senate, and who shall be compensated at the rate now or hereafter provided for level V of the Executive Schedule pay rates (5 U.S.C. 5316). The Deputy Administrator shall perform such functions as the Administrator shall from time to time assign or delegate, and shall act as Administrator during the absence or disability of the Administrator or in the event of a vacancy in the office of Administrator.

(15 U.S.C. 2204)

PUBLIC EDUCATION

SEC. 6. The Administrator is authorized to take all steps necessary to educate the public and to overcome public indifference as to fire and fire prevention. Such steps may include, but are not limited to, publications, audiovisual presentations, and demonstrations. Such public education efforts shall include programs to provide specialized information for those groups of individuals who are particularly vulnerable to fire hazards, such as the young and the

elderly. The Administrator shall sponsor and encourage research, testing, and experimentation to determine the most effective means of such public education.

(15 U.S.C. 2205)

NATIONAL ACADEMY FOR FIRE PREVENTION AND CONTROL

SEC. 7. (a) ESTABLISHMENT.—The Director shall establish, at the earliest practicable date, a National Academy for Fire Prevention and Control. The purpose of the Academy shall be to advance the professional development of fire service personnel and of other persons engaged in fire prevention and control activities.

(b) SUPERINTENDENT.—The Academy shall be headed by a Superintendent, who shall be appointed by the Director. In exercising the powers and authority contained in this section the Superintendent shall be subject to the direction of the Administrator.

(c) POWERS OF SUPERINTENDENT.—The Superintendent is authorized to—

(1) develop and revise curricula, standards for admission and performance, and criteria for the awarding of degrees and certifications;

(2) appoint such teaching staff and other personnel as he determines to be necessary or appropriate;

(3) conduct courses and programs of training and education, as defined in subsection (d) of this section;

(4) appoint faculty members and consultants without regard to the provisions of title 5, United States Code, governing appointments in the competitive service, and, with respect to temporary and intermittent services, to make appointments to the same extent as is authorized by section 3109 of title 5, United States Code;

(5) establish fees and other charges for attendance at, and subscription to, courses and programs offered by the Academy. Such fees may be modified or waived as determined by the Superintendent;

(6) conduct short courses, seminars, workshops, conferences, and similar education and training activities in all parts and localities of the United States;

(7) enter into such contracts and take such other actions as may be necessary in carrying out the purposes of the Academy; and

(8) consult with officials of the fire services and other interested persons in the exercise of the foregoing powers.

(d) PROGRAM OF THE ACADEMY.—The Superintendent is authorized to—

(1) train fire service personnel in such skills and knowledge as may be useful to advance their ability to prevent and control fires, including, but not limited to—

(A) techniques of fire prevention, fire inspection, fire-fighting, and fire and arson investigation;

(B) tactics and command of firefighting for present and future fire chiefs and commanders;

(C) administration and management of fire services;

(D) tactical training in the specialized field of aircraft fire control and crash rescue;

(E) tactical training in the specialized field of fire control and rescue aboard waterborne vessels;

(F) strategies for building collapse rescue;

(G) the use of technology in response to fires, including terrorist incidents and other national emergencies;

(H) response, tactics, and strategies for dealing with terrorist-caused national catastrophes;

(I) use of and familiarity with the Federal Response Plan;

(J) leadership and strategic skills, including integrated management systems operations and integrated response;

(K) applying new technology and developing strategies and tactics for fighting forest fires;

(L) integrating the activities of terrorism response agencies into national terrorism incident response systems;

(M) response tactics and strategies for fighting fires at United States ports, including fires on the water and aboard vessels; and

(N) the training of present and future instructors in the aforementioned subjects;

(2) develop model curricula, training programs, and other educational materials suitable for use at other educational institutions, and to make such materials available without charge;

(3) develop and administer a program of correspondence courses to advance the knowledge and skills of fire service personnel;

(4) develop and distribute to appropriate officials model questions suitable for use in conducting entrance and promotional examinations for fire service personnel; and

(5) encourage the inclusion of fire prevention and detection technology and practices in the education and professional practice of architects, builders, city planners, and others engaged in design and planning affected by fire safety problems.

(e) TECHNICAL ASSISTANCE.—The Administrator is authorized, to the extent that he determines it necessary to meet the needs of the Nation, to encourage new programs and to strengthen existing programs of education and training by local fire services, units and departments, State and local governments, and private institutions, by providing technical assistance and advice to—

(1) vocational training programs in techniques of fire prevention, fire inspection, firefighting, and fire and arson investigation;

(2) fire training courses and programs at junior colleges; and

(3) four-year degree programs in fire engineering at colleges and universities.

(f) ASSISTANCE.—The Administrator is authorized to provide assistance to State and local fire service training programs through grants, contracts, or otherwise. Such assistance shall not exceed 4 per centum of the amount authorized to be appropriated in each fiscal year pursuant to section 17 of this Act.

(g) SITE SELECTION.—The Academy shall be located on such site as the Director selects, subject to the following provisions:

(1) The Director is authorized to appoint a Site Selection Board consisting of the Academy Superintendent and two other members to survey the most suitable sites for the location of the Academy and to make recommendations to the Director.

(2) The Site Selection Board in making its recommendations and the Director in making his final selection, shall give consideration to the training and facility needs of the Academy, environmental effects, the possibility of using a surplus Government facility, and such other factors as are deemed important and relevant. The Director shall make a final site selection not later than 2 years after the date of enactment of this Act.

(h) CONSTRUCTION COSTS.—Of the sums authorized to be appropriated for the purpose of implementing the programs of the Administration, not more than \$9,000,000 shall be available for the construction of facilities of the Academy on the site selected under subsection (g) of this section. Such sums for such construction shall remain available until expended.

(i) EDUCATIONAL AND PROFESSIONAL ASSISTANCE.—The Administrator is authorized to—

(1) provide stipends to students attending Academy courses and programs in amounts up to 75 per centum of the expense of attendance, as established by the Superintendent;

(2) provide stipends to students attending courses and non-degree training programs approved by the Superintendent at universities, colleges, and junior colleges, in amounts up to 50 per centum of the cost of tuition;

(3) make or enter into contracts to make payments to institutions of higher education for loans, not to exceed \$2,500 per academic year for any individual who is enrolled on a full-time basis in an undergraduate or graduate program of fire research or engineering which is certified by the Superintendent. Loans under this paragraph shall be made on such terms and subject to such conditions as the Superintendent and each institution involved may jointly determine; and

(4) establish and maintain a placement and promotion opportunities center in cooperation with the fire services, for firefighters who wish to learn and take advantage of different or better career opportunities. Such center shall not limit such assistance to students and graduates of the Academy, but shall undertake to assist all fire service personnel.

(j) BOARD OF VISITORS.—Upon establishment of the Academy, the Director shall establish a procedure for the selection of professionals in the field of fire safety, fire prevention, fire control, research and development in fire protection, treatment and rehabilitation of fire victims, or local government services management to serve as members of a Board of Visitors for the Academy. Pursuant to such procedure, the Director shall select eight such persons to serve as members of such Board of Visitors to serve such terms as the Director may prescribe. The function of such Board shall be to review annually the program of the Academy and to make comments and recommendations to the Director regarding the operation of the Academy and any improvements therein which such Board deems appropriate. Each member of such Board shall be re-

imbursed for any expenses actually incurred by him in the performance of his duties as a member of such Board.

(k) ACCREDITATION.—The Superintendent is authorized to establish a Committee on Fire Training and Education which shall inquire into and make recommendations regarding the desirability of establishing a mechanism for accreditation of fire training and education programs and courses, and the role which the Academy should play if such a mechanism is recommended. The Committee shall consist of the Superintendent as Chairman and eighteen other members appointed by the Administrator from among individuals and organizations possessing special knowledge and experience in the field of fire training and education or related fields. The Committee shall submit to the Administrator within two years after its appointment, a full and complete report of its findings and recommendations. Upon the submission of such report, the Committee shall cease to exist. Each appointed member of the Committee shall be reimbursed for expenses actually incurred in the performance of his duties as a member.

(l) ADMISSION.—The Superintendent is authorized to admit to the courses and programs of the Academy individuals who are members of the firefighting, rescue, and civil defense forces of the Nation and such other individuals, including candidates for membership in these forces, as he determines can benefit from attendance. Students shall be admitted from any State, with due regard to adequate representation in the student body of all geographic regions of the Nation. In selecting students, the Superintendent may seek nominations and advice from the fire services and other organizations which wish to send students to the Academy. The Superintendent shall offer, at the Academy and at other sites, courses and training assistance as necessary to accommodate all geographic regions and needs of career and volunteer firefighters.

(15 U.S.C. 2206)

FIRE TECHNOLOGY

SEC. 8. (a) TECHNOLOGY DEVELOPMENT PROGRAM.—The Administrator shall conduct a continuing program of development, testing, and evaluation of equipment for use by the Nation's fire, rescue, and civil defense services, with the aim of making available improved suppression, protective, auxiliary, and warning devices incorporating the latest technology. Attention shall be given to the standardization, compatibility, and interchangeability of such equipment. Such development, testing, and evaluation activities shall include, but need not be limited to—

(1) safer, less cumbersome articles of protective clothing, including helmets, boots, and coats;

(2) breathing apparatus with the necessary duration of service, reliability, low weight, and ease of operation for practical use;

(3) safe and reliable auxiliary equipment for use in fire prevention, detection, and control, such as fire location detectors, visual and audio communications equipment, and mobile equipment;

(4) special clothing and equipment needed for forest fires, brush fires, oil and gasoline fires, aircraft fires and crash res-

cue, fires occurring aboard waterborne vessels, and in other special firefighting situations;

(5) fire detectors and related equipment for residential use with high sensitivity and reliability, and which are sufficiently inexpensive to purchase, install, and maintain to insure wide acceptance and use;

(6) in-place fire prevention systems of low cost and of increased reliability and effectiveness;

(7) methods of testing fire alarms and fire protection devices and systems on a non-interference basis;

(8) the development of purchase specifications, standards, and acceptance and validation test procedures for all such equipment and devices; and

(9) operation tests, demonstration projects, and fire investigations in support of the activities set forth in this section.

(b) **LIMITATION.**—The Administration shall not engage in the manufacture or sale of any equipment or device developed pursuant to this section, except to the extent that it deems it necessary to adequately develop, test, or evaluate such equipment or device.

(c) **MANAGEMENT STUDIES.**—(1) The Administrator is authorized to conduct, directly or through contracts or grants, studies of the operations and management aspects of fire services, utilizing quantitative techniques, such as operations research, management economics, cost effectiveness studies, and such other techniques and methods as may be applicable and useful. Such studies shall include, but need not be limited to, the allocation of resources, the optimum location of fire stations, the optimum geographical area for an integrated fire service, the manner of responding to alarms, the operation of citywide and regional fire dispatch centers, firefighting under conditions of civil disturbance, and the effectiveness, frequency, and methods of building inspections.

(2) The Administrator is authorized to conduct, directly or through contracts or grants, research concerning the productivity and efficiency of fire service personnel, the job categories and skills required by fire services under varying conditions, the reduction of injuries to fire service personnel, the most effective fire prevention programs and activities, and techniques for accurately measuring and analyzing the foregoing.

(3) The Administrator is authorized to conduct, directly or through contracts, grants, or other forms of assistance, development, testing, and demonstration projects to the extent deemed necessary to introduce and to encourage the acceptance of new technology, standards, operating methods, command techniques, and management systems for utilization by the fire services.

(4) The Administrator is authorized to assist the Nation's fire services, directly or through contracts, grants, or other forms of assistance, to measure and evaluate, on a cost-benefit basis, the effectiveness of the programs and activities of each fire service and the predictable consequences on the applicable local fire services of coordination or combination, in whole or in part, in a regional, metropolitan, or statewide fire service.

(d) **RURAL ASSISTANCE.**—The Administrator is authorized to assist the Nation's fire services, directly or through contracts, grants, or other forms of assistance, to sponsor and encourage research into approaches, techniques, systems, and equipment to improve

fire prevention and control in the rural and remote areas of the Nation.

(e) ASSISTANCE TO OTHER FEDERAL AGENCIES.—At the request of other Federal agencies, including the Department of Agriculture and the Department of the Interior, the Administrator may provide assistance in fire prevention and control technologies, including methods of containing insect-infested forest fires and limiting dispersal of resultant fire particle smoke, and methods of measuring and tracking the dispersal of fine particle smoke resulting from fires of insect-infested fuel.

(f) TECHNOLOGY EVALUATION AND STANDARDS DEVELOPMENT.—

(1) IN GENERAL.—In addition to, or as part of, the program conducted under subsection (a), the Administrator, in consultation with the National Institute of Standards and Technology, the Inter-Agency Board for Equipment Standardization and Inter-Operability, the National Institute for Occupational Safety and Health, the Directorate of Science and Technology of the Department of Homeland Security, national voluntary consensus standards development organizations, interested Federal, State, and local agencies, and other interested parties, shall—

(A) develop new, and utilize existing, measurement techniques and testing methodologies for evaluating new firefighting technologies, including—

- (i) personal protection equipment;
- (ii) devices for advance warning of extreme hazard;
- (iii) equipment for enhanced vision;
- (iv) devices to locate victims, firefighters, and other rescue personnel in above-ground and below-ground structures;
- (v) equipment and methods to provide information for incident command, including the monitoring and reporting of individual personnel welfare;
- (vi) equipment and methods for training, especially for virtual reality training; and
- (vii) robotics and other remote-controlled devices;

(B) evaluate the compatibility of new equipment and technology with existing firefighting technology; and

(C) support the development of new voluntary consensus standards through national voluntary consensus standards organizations for new firefighting technologies based on techniques and methodologies described in subparagraph (A).

(2) STANDARDS FOR NEW EQUIPMENT.—(A) The Administrator shall, by regulation, require that new equipment or systems purchased through the assistance program established by the first section 33 meet or exceed applicable voluntary consensus standards for such equipment or systems for which applicable voluntary consensus standards have been established. The Administrator may waive the requirement under this subparagraph with respect to specific standards.

(B) If an applicant for a grant under the first section 33 proposes to purchase, with assistance provided under the grant, new equipment or systems that do not meet or exceed

applicable voluntary consensus standards, the applicant shall include in the application an explanation of why such equipment or systems will serve the needs of the applicant better than equipment or systems that do meet or exceed such standards.

(C) In making a determination whether or not to waive the requirement under subparagraph (A) with respect to a specific standard, the Administrator shall, to the greatest extent practicable—

(i) consult with grant applicants and other members of the fire services regarding the impact on fire departments of the requirement to meet or exceed the specific standard;

(ii) take into consideration the explanation provided by the applicant under subparagraph (B); and

(iii) seek to minimize the impact of the requirement to meet or exceed the specific standard on the applicant, particularly if meeting the standard would impose additional costs.

(D) Applicants that apply for a grant under the terms of subparagraph (B) may include a second grant request in the application to be considered by the Administrator in the event that the Administrator does not approve the primary grant request on the grounds of the equipment not meeting applicable voluntary consensus standards.

(g) COORDINATION.—In establishing and conducting programs under this section, the Administrator shall take full advantage of applicable technological developments made by other departments and agencies of the Federal Government, by State and local governments, and by business, industry, and nonprofit associations.

(15 U.S.C. 2207)

NATIONAL FIRE DATA CENTER

SEC. 9. (a) GENERAL.—The Administrator shall operate, directly or through contracts or grants, an integrated, comprehensive National Fire Data Center for the selection, analysis, publication, and dissemination of information related to the prevention, occurrence, control, and results of fires of all types. The program of such Data Center shall be designed to (1) provide an accurate nationwide analysis of the fire problem, (2) identify major problem areas, (3) assist in setting priorities, (4) determine possible solutions to problems, and (5) monitor the progress of programs to reduce fire losses. To carry out these functions, the Data Center shall gather and analyze—

(1) information on the frequency, causes, spread, and extinguishment of fires;

(2) information on the number of injuries and deaths resulting from fires, including the maximum available information on the specific causes and nature of such injuries and deaths, and information on property losses;

(3) information on the occupational hazards faced by firefighters, including the causes of deaths and injuries arising, directly and indirectly, from firefighting activities;

(4) information on all types of firefighting activities, including inspection practices;

(5) technical information related to building construction, fire properties of materials, and similar information;

(6) information on fire prevention and control laws, systems, methods, techniques, and administrative structures used in foreign nations;

(7) information on the causes, behavior, and best method of control of other types of fire, including, but not limited to, forest fires, brush fires, fire underground, oil blow-out fires, and waterborne fires; and

(8) such other information and data as is deemed useful and applicable.

(b) METHODS.—In carrying out the program of the Data Center, the Administrator is authorized to—

(1) develop standardized data reporting methods;

(2) encourage and assist State, local, and other agencies, public and private, in developing and reporting information; and

(3) make full use of existing data gathering and analysis organizations, both public and private.

(c) DISSEMINATION.—The Administrator shall insure dissemination to the maximum extent possible of fire data collected and developed by the Data Center, and shall make sure data, information, and analysis available in appropriate form to Federal agencies, State and local governments, private organizations, industry, business, and other interested persons.

(15 U.S.C. 2208)

MASTER PLANS

SEC. 10. (a) GENERAL.—The establishment of master plans for fire prevention and control are the responsibility of the States and the political subdivisions thereof. The Administrator is authorized to encourage and assist such States and political subdivisions in such planning activities, consistent with his powers and duties under this Act.

(b) MUTUAL AID SYSTEMS.—

(1) IN GENERAL.—The Administrator shall provide technical assistance and training to State and local fire service officials to establish nationwide and State mutual aid systems for dealing with national emergencies that—

(A) include threat assessment and equipment deployment strategies;

(B) include means of collecting asset and resource information to provide accurate and timely data for regional deployment; and

(C) are consistent with the Federal Response Plan.

(2) MODEL MUTUAL AID PLANS.—The Administrator shall develop and make available to State and local fire service officials model mutual aid plans for both intrastate and interstate assistance.

(c) DEFINITION.—For the purposes of this section, a “master plan” is one which will result in the planning and implementation in the area involved of a general program of action for fire prevention and control. Such master plan is reasonably expected to include (1) a survey of the resources and personnel of existing fire

services and an analysis of the effectiveness of the fire and building codes in such area; (2) an analysis of short and long term fire prevention and control needs in such area; (3) a plan to meet the fire prevention and control needs in such area; and (4) an estimate of cost and realistic plans for financing the implementation of the plan and operation on a continuing basis and a summary of problems that are anticipated in implementing such master plan.

(15 U.S.C. 2209)

REIMBURSEMENT FOR COSTS OF FIREFIGHTING ON FEDERAL PROPERTY

SEC. 11. (a) CLAIM.—Each fire service that engages in the fighting of a fire on property which is under the jurisdiction of the United States may file a claim with the Administrator for the amount of direct expenses and direct losses incurred by such fire service as a result of fighting such fire. The claim shall include such supporting information as the Administrator may prescribe.

(b) DETERMINATION.—Upon receipt of a claim filed under subsection (a) of this section, the Administrator shall determine—

(1) what payments, if any, to the fire service or its parent jurisdiction, including taxes or payments in lieu of taxes, the United States has made for the support of fire services on the property in question;

(2) the extent to which the fire service incurred additional firefighting costs, over and above its normal operating costs, in connection with the fire which is the subject of the claim; and

(3) the amount, if any, of the additional costs referred to in paragraph (2) of this subsection which were not adequately covered by the payments referred to in paragraph (1) of this subsection;

(c) PAYMENT.—The Director shall forward the claim and a copy of the Administrator's determination under subsection (b)(3) of this section to the Secretary of the Treasury. The Secretary of the Treasury shall, upon receipt of the claim and determination, pay such fire service or its parent jurisdiction, from any moneys in the Treasury not otherwise appropriated but subject to reimbursement (from any appropriations which may be available or which may be made available for the purpose) by the Federal department or agency under whose jurisdiction the fire occurred, a sum no greater than the amount determined with respect to the claim under subsection (b)(3) of this section.

(d) ADJUDICATION.—In the case of a dispute arising in connection with a claim under this section, the United States Claims Court shall have jurisdiction to adjudicate the claim and enter judgment accordingly.

(15 U.S.C. 2210)

REVIEW OF CODES

SEC. 12. The Administrator is authorized to review, evaluate, and suggest improvements in State and local fire prevention codes, building codes, and any relevant Federal or private codes and regulations. In evaluating any such code or codes, the Administrator shall consider the human impact of all code requirements, standards, or provisions in terms of comfort and habitability for resi-

dents or employees, as well as the fire prevention and control value or potential of each such requirement, standard, or provision.

(15 U.S.C. 2211)

FIRE SAFETY EFFECTIVENESS STATEMENTS

SEC. 13. The Administrator is authorized to encourage owners and managers of residential multiple-unit, commercial, industrial, and transportation structures to prepare Fire Safety Effectiveness Statements, pursuant to standards, forms, rules, and regulations to be developed and issued by the Administrator.

(15 U.S.C. 2212)

ANNUAL CONFERENCE

SEC. 14. The Administrator is authorized to organize, or to participate in organizing, an annual conference on fire prevention and control. He may pay, in whole or in part, the cost of such conference and the expenses of some or all of the participants. All of the Nation's fire services shall be eligible to send representatives to each such conference to discuss, exchange ideas on, and participate in educational programs on new techniques in fire prevention and control. Such conferences shall be open to the public.

(15 U.S.C. 2213)

PUBLIC SAFETY AWARDS

SEC. 15. (a) ESTABLISHMENT.—There is hereby established an honorary award for the recognition of outstanding and distinguished service by public safety officers to be known as the Director's Award For Distinguished Public Safety Service ("Director's Award").

(b) DESCRIPTION.—The Director's Award shall be presented by the Director or by the Attorney General to public safety officers for distinguished service in the field of public safety.

(c) AWARD.—Each Director's Award shall consist of an appropriate citation.

(d) REGULATIONS.—The Director and the Attorney General are authorized and directed to issue jointly such regulations as may be necessary to carry out this section.

(e) DEFINITIONS.—As used in this section, the term "public safety officer" means a person serving a public agency, with or without compensation, as—

- (1) a firefighter;
- (2) a law enforcement officer, including a corrections or court officer; or
- (3) a civil defense officer.

(15 U.S.C. 2214)

ANNUAL REPORT

SEC. 16. The Director shall report to the Congress and the President not later than ninety calendar days following the year ending September 30, 1980 and similarly each year thereafter on all activities relating to fire prevention and control, and all measures taken to implement and carry out this Act during the pre-

ceding calendar year. Such report shall include, but need not be limited to—

(a) a thorough appraisal, including statistical analysis, estimates, and long-term projections of the human and economic losses due to fire;

(b) a survey and summary, in such detail as is deemed advisable, of the research and technology program undertaken or sponsored pursuant to this Act;

(c) a summary of the activities of the Academy for the preceding 12 months, including, but not limited to—

(1) an explanation of the curriculum of study;

(2) a description of the standards of admission and performance;

(3) the criteria for the awarding of degrees and certificates; and

(4) a statistical compilation of the number of students attending the Academy and receiving degrees or certificates;

(d) a summary of the activities undertaken to assist the Nation's fire services;

(e) a summary of the public education programs undertaken;

(f) an analysis of the extent of participation in preparing and submitting Fire Safety Effectiveness Statements;

(g) a summary of outstanding problems confronting the administration of this Act, in order of priority;

(h) such recommendations for additional legislation as are deemed necessary or appropriate; and

(i) a summary of reviews, evaluations, and suggested improvements in State and local fire prevention and building codes, fire services, and any relevant Federal or private codes, regulations, and fire services.

(15 U.S.C. 2215)

AUTHORIZATION OF APPROPRIATIONS

SEC. 17. (a) There are authorized to be appropriated to carry out the foregoing provisions of this Act, except as otherwise specifically provided, with respect to the payment of claims, under section 11 of this Act, an amount not to exceed \$25,210,000 for the fiscal year ending September 30, 1980, which amount includes—

(1) \$4,781,000 for programs which are recommended in the report submitted to the Congress by the Administrator pursuant to section 24(b)(1);

(2) \$9,430,000 for the National Academy for Fire Prevention and Control;

(3) \$307,000 for adjustments required by law in salaries, pay, retirement, and employee benefits;

(4) \$500,000 for additional rural firefighting technical assistance and information activities;

(5) \$500,000 for the study required by section 26 of this Act; and

(6) \$110,000 for the study required by section 27 of this Act.

(b) There are authorized to be appropriated for the additional administrative expenses of the Federal Emergency Management Agency, which are related to this Act and which result from Reorganization Plan Numbered 3 of 1978 (submitted June 19, 1978) and related Executive orders, an amount not to exceed \$600,000 for the fiscal year ending September 30, 1980.

(c) There are authorized to be appropriated to carry out this Act, except as otherwise specifically provided with respect to the payment of claims under section 11 this Act, an amount not to exceed \$23,814,000 for the fiscal year ending September 30, 1981, which amount includes—

(1) not less than \$1,100,000 for the first year of a three-year concentrated demonstration program of fire prevention and control in two States with high fire death rates;

(2) not less than \$2,575,000 for rural fire prevention and control; and

(3) not less than \$4,255,000 for research and development for the activities under section 18 of this Act at the Fire Research Center of the National Bureau of Standards, of which not less than \$250,000 shall be available for adjustments required by law in salaries, pay, retirement, and employee benefits.

The funds authorized in paragraph (3) shall be in addition to funds authorized in any other law for research and development at the Fire Research Center.

(d) Except as otherwise specifically provided with respect to the payment of claims under section 11 of this Act, to carry out the purposes of this Act, there are authorized to be appropriated—

(1) \$20,815,000 for the fiscal year ending September 30, 1982, and \$23,312,800 for the fiscal year ending September 30, 1983, which amount shall include—

(A) such sums as may be necessary for the support of research and development at the Fire Research Center of the National Bureau of Standards under section 18 of this Act, which sums shall be in addition to those funds authorized to be appropriated under the National Bureau of Standards Authorization Act for fiscal years 1981 and 1982; and

(B) \$654,000 for the fiscal year ending September 30, 1982, and \$732,480 for the fiscal year ending September 30, 1983, for executive direction by the Federal Emergency Management Agency of program activities for which appropriations are authorized by this subsection; and

(2) such further sums as may be necessary in each of the fiscal years ending September 30, 1982, and September 30, 1983, for adjustments required by law in salaries, pay, retirement, and employee benefits incurred in the conduct of activities for which funds are authorized by paragraph (1) of this subsection.

The funds authorized under section 18 shall be in addition to funds authorized in any other law for research and development at the Fire Research Center of the National Bureau of Standards.

(e) Except as otherwise specifically provided with respect to the payment of claims under section 11 of this Act, to carry out the purposes of this Act, there are authorized to be appropriated—

(1) \$15,720,000 for the fiscal year ending September 30, 1984, and \$20,983,000 for the fiscal year ending September 30, 1985; and

(2) such further sums as may be necessary in each of the fiscal years ending September 30, 1984, and September 30, 1985, for adjustments required by law in salaries, pay, retirement, and employee benefits incurred in the conduct of activities for which funds are authorized by paragraph (1) of this subsection.

The funds authorized under this subsection shall be in addition to funds authorized in any other law for research and development at the Fire Research Center of the National Bureau of Standards.

(f) Except as otherwise specifically provided with respect to the payment of claims under section 11 of this Act, to carry out the purposes of this Act, there are authorized to be appropriated \$22,037,000 for the fiscal year ending September 30, 1986 and \$18,300,000 for the fiscal year ending September 30, 1987.

(g)(1) Except as otherwise specifically provided with respect to the payment of claims under section 11 of this Act, there are authorized to be appropriated to carry out the purposes of this Act—

(A) \$63,000,000 for fiscal year 2005, of which \$2,266,000 shall be used to carry out section 8(f);

(B) \$64,850,000 for fiscal year 2006, of which \$2,334,000 shall be used to carry out section 8(f);

(C) \$66,796,000 for fiscal year 2007, of which \$2,404,000 shall be used to carry out section 8(f); and

(D) \$68,800,000 for fiscal year 2008, of which \$2,476,000 shall be used to carry out section 8(f).

(2) Of the amount referred to in paragraph (1), not more than \$4,150,000 is authorized to be appropriated for each fiscal year for National Emergency Training Center site administration.

(h) In addition to any other amounts that are authorized to be appropriated to carry out this Act, there are authorized to be appropriated to carry out this Act—

(1) \$500,000 for fiscal year 1995 for basic research on the development of an advanced course on arson prevention;

(2) \$2,000,000 for fiscal year 1996 for the expansion of arson investigator training programs at the Academy under section 24 and at the Federal Law Enforcement Training Center, or through regional delivery sites;

(3) \$4,000,000 for each of fiscal years 1995 and 1996 for carrying out section 25, except for salaries and expenses for carrying out section 25; and

(4) \$250,000 for each of the fiscal years 1995 and 1996 for salaries and expenses for carrying out section 25.

(15 U.S.C. 2216)

FIRE RESEARCH CENTER

SEC. 18.¹

¹ Section 18 amended the National Institute of Standards and Technology Act, which is shown elsewhere in this compilation.

VICTIMS OF FIRE

SEC. 19. (a) PROGRAM.—The Secretary of Health, Education, and Welfare shall establish, within the National Institutes of Health and in cooperation with the Director, an expanded program of research on burns, treatment of burn injuries, and rehabilitation of victims of fires. The National Institutes of Health shall—

(1) sponsor and encourage the establishment throughout the Nation of twenty-five additional burn centers, which shall comprise separate hospital facilities providing specialized burn treatment and including research and teaching programs, and twenty-five additional burn units, which shall comprise specialized facilities in general hospitals used only for burn victims;

(2) provide training and continuing support of specialists to staff the new burn centers and burn units;

(3) sponsor and encourage the establishment of ninety burn programs in general hospitals which comprise staffs of burn injury specialists;

(4) provide special training in emergency care for burn victims;

(5) augment sponsorship of research on burns and burn treatment;

(6) administer and support a systematic program of research concerning smoke inhalation injuries; and

(7) sponsor and support other research and training programs in the treatment and rehabilitation of burn injury victims.

(b) AUTHORIZATION OF APPROPRIATION.—For purposes of this section, there are authorized to be appropriated not to exceed \$5,000,000 for the fiscal year ending June 30, 1975 and not to exceed \$8,000,000 for the fiscal year ending June 30, 1976.

(42 U.S.C. 290a)

PUBLIC ACCESS TO INFORMATION

SEC. 20. Copies of any document, report, statement, or information received or sent by the Director or the Administrator shall be made available to the public pursuant to the provisions of section 552 of title 5, United States Code: *Provided*, That, notwithstanding the provisions of subsection (b) of such section and of section 1905 of title 18, United States Code, the Director may disclose information which concerns or relates to a trade secret—

(1) upon request, to other Federal Government departments and agencies for official use;

(2) upon request, to any committee of Congress having jurisdiction over the subject matter to which the information relates;

(3) in any judicial proceeding under a court order formulated to preserve the confidentiality of such information without impairing the proceedings; and

(4) to the public when he determines such disclosure to be necessary in order to protect health and safety after notice and opportunity for comment in writing or for discussion in closed session within fifteen days by the party to which the information pertains (if the delay resulting from such notice and op-

portunity for comment would not be detrimental to health and safety).

(15 U.S.C. 2217)

ADMINISTRATIVE PROVISIONS

SEC. 21. (a) ASSISTANCE.—Each department, agency, and instrumentality of the executive branch of the Federal Government and each independent regulatory agency of the United States is authorized and directed to furnish to the Administrator, upon written request, on a reimbursable basis or otherwise, such assistance as the Administrator deems necessary to carry out his functions and duties pursuant to this Act, including, but not limited to, transfer of personnel with their consent and without prejudice to their position and ratings.

(b) POWERS.—With respect to this Act, the Administrator is authorized to—

(1) enter into, without regard to section 3709 of the Revised Statutes, as amended (41 U.S.C. 5) such contracts, grants, leases, cooperative agreements, or other transactions as may be necessary to carry out the provisions of this Act;

(2) accept gifts and voluntary and uncompensated services, notwithstanding the provisions of section 3679 of the Revised Statutes (31 U.S.C. 665(b));

(3) purchase, lease, or otherwise acquire, own, hold, improve, use, or deal in and with any property (real, personal, or mixed, tangible or intangible), or interest in property, wherever situated; and sell, convey, mortgage, pledge, lease, exchange, or otherwise dispose of property and assets;

(4) procure temporary and intermittent services to the same extent as is authorized under section 3109 of title 5, United States Code, but at rates not to exceed the daily equivalent of the maximum annual rate of basic pay then in effect for grade GS-15 of the General Schedule (5 U.S.C. 5332(a)) for qualified experts; and

(5) establish such rules, regulations, and procedures as are necessary to carry out the provisions of this Act.

(c) AUDIT.—The Director and the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any books, documents, papers, and records of the recipients of contracts, grants, or other forms of assistance that are pertinent to its activities under this Act for the purpose of audit or to determine if a proposed activity is in the public interest.

(d) INVENTIONS AND DISCOVERIES.—All property rights with respect to inventions and discoveries, which are made in the course of or under contract with any government agency pursuant to this Act, shall be subject to the basic policies set forth in the President's Statement of Government Patent Policy issued August 23, 1971, or such revisions of that statement of policy as may subsequently be promulgated and published in the Federal Register.

(e) COORDINATION.—To the extent practicable, the Administrator shall utilize existing programs, data, information, and facilities already available in other Federal Government departments and agencies and, where appropriate, existing research organizations, centers, and universities. The Administrator shall provide li-

aision at an appropriate organizational level to assure coordination of his activities with State and local government agencies, departments, bureaus, or offices concerned with any matter related to programs of fire prevention and control with private and other Federal organizations and offices so concerned.

(15 U.S.C. 2218)

ASSISTANCE TO CONSUMER PRODUCT SAFETY COMMISSION

SEC. 22. Upon request, the Administrator shall assist the Consumer Product Safety Commission in the development of fire safety standards or codes for consumer products, as defined in the Consumer Product Safety Act (15 U.S.C. 2051 et seq.).

(15 U.S.C. 2219)

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FEDERAL PROGRAMS TO COMBAT ARSON

SEC. 24. The Administrator shall—

(1) develop arson detection techniques to assist Federal agencies and States and local jurisdictions in improving arson prevention, detection, and control;

(2) provide training and instructional materials in the skills and knowledge necessary to assist Federal, State, and local fire service and law enforcement personnel in arson prevention, detection, and control, with particular emphasis on the needs of volunteer firefighters for improved and more widely available arson training courses;

(3) formulate methods for collection of arson data which would be compatible with methods of collection used for the uniform crime statistics of the Federal Bureau of Investigation;

(4) develop and implement programs for improved collection of nationwide arson statistics within the National Fire Incident Reporting System at the National Fire Data Center;

(5) develop programs for public education on the extent, causes, and prevention of arson; and

(6) develop handbooks to assist Federal, State, and local fire service and law enforcement personnel in arson prevention and detention.

(15 U.S.C. 2220)

SEC. 25. ARSON PREVENTION GRANTS.

(a) DEFINITIONS.—As used in this section:

(1) ARSON.—The term “arson” includes all incendiary and suspicious fires.

(2) OFFICE.—The term “Office” means the Office of Fire Prevention and Arson Control of the United States Fire Administration.

(b) GRANTS.—The Administrator, acting through the Office, shall carry out a demonstration program under which not more than 10 grant awards shall be made to States, or consortia of States, for programs relating to arson research, prevention, and control.

(c) GOALS.—In carrying out this section, the Administrator shall award 2-year grants on a competitive, merit basis to States,

or consortia of States, for projects that promote one or more of the following goals:

(1) To improve the training by States leading to professional certification of arson investigators, in accordance with nationally recognized certification standards.

(2) To provide resources for the formation of arson task forces or interagency organizational arrangements involving police and fire departments and other relevant local agencies, such as a State arson bureau and the office of a fire marshal of a State.

(3) To combat fraud as a cause of arson and to advance research at the State and local levels on the significance and prevention of fraud as a motive for setting fires.

(4) To provide for the management of arson squads, including—

(A) training courses for fire departments in arson case management, including standardization of investigative techniques and reporting methodology;

(B) the preparation of arson unit management guides; and

(C) the development and dissemination of new public education materials relating to the arson problem.

(5) To combat civil unrest as a cause of arson and to advance research at the State and local levels on the prevention and control of arson linked to urban disorders.

(6) To combat juvenile arson, such as juvenile fire-setter counseling programs and similar intervention programs, and to advance research at the State and local levels on the prevention of juvenile arson.

(7) To combat drug-related arson and to advance research at the State and local levels on the causes and prevention of drug-related arson.

(8) To combat domestic violence as a cause of arson and to advance research at the State and local levels on the prevention of arson arising from domestic violence.

(9) To combat arson in rural areas and to improve the capability of firefighters to identify and prevent arson initiated fires in rural areas and public forests.

(10) To improve the capability of firefighters to identify and combat arson through expanded training programs, including—

(A) training courses at the State fire academies; and

(B) innovative courses developed with the Academy and made available to volunteer firefighters through regional delivery methods, including teleconferencing and satellite delivered television programs.

(d) **STRUCTURING OF APPLICATIONS.**—The Administrator shall assist grant applicants in structuring their applications so as to ensure that at least one grant is awarded for each goal described in subsection (c).

(e) **STATE QUALIFICATION CRITERIA.**—In order to qualify for a grant under this section, a State, or consortium of States, shall provide assurances adequate to the Administrator that the State or consortium—

(1) will obtain at least 25 percent of the cost of programs funded by the grant, in cash or in kind, from non-Federal sources;

(2) will not as a result of receiving the grant decrease the prior level of spending of funds of the State or consortium from non-Federal sources for arson research, prevention, and control programs;

(3) will use no more than 10 percent of funds provided under the grant for administrative costs of the programs; and

(4) is making efforts to ensure that all local jurisdictions will provide arson data to the National Fire Incident Reporting System or the Uniform Crime Reporting program.

(f) EXTENSION.—A grant awarded under this section may be extended for one or more additional periods, at the discretion of the Administrator, subject to the availability of appropriations.

(g) TECHNICAL ASSISTANCE.—The Administrator shall provide technical assistance to States in carrying out programs funded by grants under this section.

(h) CONSULTATION AND COOPERATION.—In carrying out this section, the Administrator shall consult and cooperate with other Federal agencies to enhance program effectiveness and avoid duplication of effort, including the conduct of regular meetings initiated by the Administrator with representatives of other Federal agencies concerned with arson and concerned with efforts to develop a more comprehensive profile of the magnitude of the national arson problem.

(i) ASSESSMENT.—Not later than 18 months after the date of enactment of this subsection, the Administrator shall submit a report to Congress that—

(1) identifies grants made under this section;

(2) specifies the identity of grantees;

(3) states the goals of each grant; and

(4) contains a preliminary assessment of the effectiveness of the grant program under this section.

(j) REGULATIONS.—Not later than 90 days after the date of enactment of this subsection, the Administrator shall issue regulations to implement this section, including procedures for grant applications.

(k) ADMINISTRATION.—The Administrator shall directly administer the grant program required by this section, and shall not enter into any contract under which the grant program or any portion of the program will be administered by another party.

(l) PURCHASE OF AMERICAN MADE EQUIPMENT AND PRODUCTS.—

(1) SENSE OF CONGRESS.—It is the sense of Congress that any recipient of a grant under this section should purchase, when available and cost-effective, American made equipment and products when expending grant monies.

(2) NOTICE TO RECIPIENTS OF ASSISTANCE.—In allocating grants under this section, the Administrator shall provide to each recipient a notice describing the statement made in paragraph (1) by the Congress.

[SEC. 26. Repealed by section 110(a)(1)(B) of P.L. 106-503 (114 Stat. 2302).]

[SEC. 27. Repealed by section 110(a)(1)(B) of P.L. 106-503 (114 Stat. 2302).]

LISTINGS OF PLACES OF PUBLIC ACCOMMODATION

SEC. 28. (a) SUBMISSIONS BY STATES.—(1) Not later than 2 years after the date of enactment of this section, each State (acting through its Governor or the Governor's designee) shall, under procedures formulated by the Director, submit to the Director a list of those places of public accommodation affecting commerce located in the State which meet the requirements of the guidelines described in section 29.

(2) The Director shall formulate procedures under which each State (acting through its Governor or the Governor's designee) shall periodically update the list submitted pursuant to paragraph (1).

(b) COMPILATION AND DISTRIBUTION OF MASTER LIST.—(1) Not later than 60 days after the expiration of the 2-year period referred to in subsection (a), the Director shall compile and publish in the Federal Register a national master list of all of the places of public accommodation affecting commerce located in each State that meet the requirements of the guidelines described in section 29, and shall distribute such list to each agency of the Federal Government and take steps to make the employees of such agencies aware of its existence and contents.

(2) The Director shall periodically update the national master list compiled pursuant to paragraph (1) to reflect changes in the State lists submitted to the Director pursuant to subsection (a), and shall periodically redistribute the updated master list to each agency of the Federal Government.

(3) For purposes of this subsection, the term "agency" has the meaning given to it under section 5701(1) of title 5, United States Code.

(15 U.S.C. 2224)

FIRE PREVENTION AND CONTROL GUIDELINES FOR PLACES OF PUBLIC ACCOMMODATION

SEC. 29. (a) CONTENTS OF GUIDELINES.—The guidelines referred to in sections 28 and 30 consist of—

(1) a requirement that hard-wired, single-station smoke detectors be installed in accordance with National Fire Protection Association Standard 74 or any successor standard to that standard in each guest room in each place of public accommodation affecting commerce; and

(2) a requirement that an automatic sprinkler system be installed in accordance with National Fire Protection Association Standard 13 or 13-R, or any successor standard to that standard, whichever is appropriate, in each place of public accommodation affecting commerce except those places that are 3 stories or lower.

(b) EXCEPTIONS.—(1) The requirement described in subsection (a)(2) shall not apply to a place of public accommodation affecting commerce with an automatic sprinkler system installed before Oc-

tober 25, 1992, if the automatic sprinkler system is installed in compliance with an applicable standard (adopted by the governmental authority having jurisdiction, and in effect, at the time of installation) that required the placement of a sprinkler head in the sleeping area of each guest room.

(2) The requirement described in subsection (a)(2) shall not apply to a place of public accommodation affecting commerce to the extent that such place of public accommodation affecting commerce is subject to a standard that includes a requirement or prohibition that prevents compliance with a provision of National Fire Protection Association Standard 13 or 13-R, or any successor standard to that standard. In such a case, the place of public accommodation affecting commerce is exempt only from that specific provision.

(c) EFFECT ON STATE AND LOCAL LAW.—The provisions of this section shall not be construed to limit the power of any State or political subdivision thereof to implement or enforce any law, rule, regulation, or standard concerning fire prevention and control.

(d) DEFINITIONS.—For purposes of this section, the following definitions shall apply:

(1) The term “smoke detector” means an alarm that is designed to respond to the presence of visible or invisible particles of combustion.

(2) The term “automatic sprinkler system” means an electronically supervised, integrated system of piping to which sprinklers are attached in a systematic pattern, and which, when activated by heat from a fire, will protect human lives by discharging water over the fire area, and by providing appropriate warning signals (to the extent such signals are required by Federal, State, or local laws or regulations) through the building’s fire alarm system.

(3) The term “governmental authority having jurisdiction” means the Federal, State, local, or other governmental entity with statutory or regulatory authority for the approval of fire safety systems, equipment, installations, or procedures within a specified locality.

(15 U.S.C. 2225)

DISSEMINATION OF FIRE PREVENTION AND CONTROL INFORMATION

SEC. 30. The Director, acting through the Administrator, is authorized to take steps to encourage the States to promote the use of automatic sprinkler systems and automatic smoke detection systems, and to disseminate to the maximum extent possible information on the life safety value and use of such systems. Such steps may include, but need not be limited to, providing copies of the guidelines described in section 29 and of the master list compiled under section 28(b) to Federal agencies, State and local governments, and fire services throughout the United States, and making copies of the master list compiled under section 28(b) available upon request to interested private organizations and individuals.

(15 U.S.C. 2226)

SEC. 31. FIRE SAFETY SYSTEMS IN FEDERALLY ASSISTED BUILDINGS.

(a) DEFINITIONS.—For purposes of this section, the following definitions apply:

(1) The term "affordable cost" means the cost to a Federal agency of leasing office space in a building that is protected by an automatic sprinkler system or equivalent level of safety, which cost is no more than 10 percent greater than the cost of leasing available comparable office space in a building that is not so protected.

(2) The term "automatic sprinkler system" means an electronically supervised, integrated system of piping to which sprinklers are attached in a systematic pattern, and which, when activated by heat from a fire—

(A) will protect human lives by discharging water over the fire area, in accordance with the National Fire Protection Association Standard 13, 13D, or 13R, whichever is appropriate for the type of building and occupancy being protected, or any successor standard thereto; and

(B) includes an alarm signaling system with appropriate warning signals (to the extent such alarm systems and warning signals are required by Federal, State, or local laws or regulations) installed in accordance with the National Fire Protection Association Standard 72, or any successor standard thereto.

(3) The term "equivalent level of safety" means an alternative design or system (which may include automatic sprinkler systems), based upon fire protection engineering analysis, which achieves a level of safety equal to or greater than that provided by automatic sprinkler systems.

(4) The term "Federal employee office building" means any office building in the United States, whether owned or leased by the Federal Government, that is regularly occupied by more than 25 full-time Federal employees in the course of their employment.

(5) The term "housing assistance"—

(A) means assistance provided by the Federal Government to be used in connection with the provision of housing, that is provided in the form of a grant, contract, loan, loan guarantee, cooperative agreement, interest subsidy, insurance, or direct appropriation; and

(B) does not include assistance provided by the Secretary of Veterans Affairs; the Federal Emergency Management Agency; the Secretary of Housing and Urban Development under the single family mortgage insurance programs under the National Housing Act or the homeownership assistance program under section 235 of such Act; the National Homeownership Trust; the Federal Deposit Insurance Corporation under the affordable housing program under section 40 of the Federal Deposit Insurance Act; or the Resolution Trust Corporation under the affordable housing program under section 21A(c) of the Federal Home Loan Bank Act.

(6) The term "hazardous areas" means those areas in a building referred to as hazardous areas in National Fire Protection Association Standard 101, known as the Life Safety Code, or any successor standard thereto.

(7) The term "multifamily property" means—

(A) in the case of housing for Federal employees or their dependents, a residential building consisting of more than 2 residential units that are under one roof; and

(B) in any other case, a residential building consisting of more than 4 residential units that are under one roof.

(8) The term "prefire plan" means specific plans for fire fighting activities at a property or location.

(9) The term "rebuilding" means the repairing or reconstructing of portions of a multifamily property where the cost of the alterations is 70 percent or more of the replacement cost of the completed multifamily property, not including the value of the land on which the multifamily property is located.

(10) The term "renovated" means the repairing or reconstructing of 50 percent or more of the current value of a Federal employee office building, not including the value of the land on which the Federal employee office building is located.

(11) The term "smoke detectors" means single or multiple station, self-contained alarm devices designed to respond to the presence of visible or invisible particles of combustion, installed in accordance with the National Fire Protection Association Standard 74 or any successor standard thereto.

(12) The term "United States" means the States collectively.

(b) FEDERAL EMPLOYEE OFFICE BUILDINGS.—(1)(A) No Federal funds may be used for the construction or purchase of a Federal employee office building of 6 or more stories unless during the period of occupancy by Federal employees the building is protected by an automatic sprinkler system or equivalent level of safety. No Federal funds may be used for the construction or purchase of any other Federal employee office building unless during the period of occupancy by Federal employees the hazardous areas of the building are protected by automatic sprinkler systems or an equivalent level of safety.

(B)(i) Except as provided in clause (ii), no Federal funds may be used for the lease of a Federal employee office building of 6 or more stories, where at least some portion of the federally leased space is on the sixth floor or above and at least 35,000 square feet of space is federally occupied, unless during the period of occupancy by Federal employees the entire Federal employee office building is protected by an automatic sprinkler system or equivalent level of safety. No Federal funds may be used for the lease of any other Federal employee office building unless during the period of occupancy by Federal employees the hazardous areas of the entire Federal employee office building are protected by automatic sprinkler systems or an equivalent level of safety.

(ii) The first sentence of clause (i) shall not apply to the lease of a building the construction of which is completed before the date of enactment of this section if the leasing agency certifies that no suitable building with automatic sprinkler systems or an equivalent level of safety is available at an affordable cost.

(2) Paragraph (1) shall not apply to—

(A) a Federal employee office building that was owned by the Federal Government before the date of enactment of this section;

(B) space leased in a Federal employee office building if the space was leased by the Federal Government before such date of enactment;

(C) space leased on a temporary basis for not longer than 6 months;

(D) a Federal employee office building that becomes a Federal employee office building pursuant to a commitment to move Federal employees into the building that is made prior to such date of enactment; or

(E) a Federal employee office building that is owned or managed by the Resolution Trust Corporation.

Nothing in this subsection shall require the installation of an automatic sprinkler system or equivalent level of safety by reason of the leasing, after such date of enactment, of space below the sixth floor in a Federal employee office building.

(3) No Federal funds may be used for the renovation of a Federal employee office building of 6 or more stories that is owned by the Federal Government unless after that renovation the Federal employee office building is protected by an automatic sprinkler system or equivalent level of safety. No Federal funds may be used for the renovation of any other Federal employee office building that is owned by the Federal Government unless after that renovation the hazardous areas of the Federal employee office building are protected by automatic sprinkler systems or an equivalent level of safety.

(4) No Federal funds may be used for entering into or renewing a lease of a Federal employee office building of 6 or more stories that is renovated after the date of enactment of this section, where at least some portion of the federally leased space is on the sixth floor or above and at least 35,000 square feet of space is federally occupied, unless after that renovation the Federal employee office building is protected by an automatic sprinkler system or equivalent level of safety. No Federal funds may be used for entering into or renewing a lease of any other Federal employee office building that is renovated after such date of enactment of this section, unless after that renovation the hazardous areas of the Federal employee office building are protected by automatic sprinkler systems or an equivalent level of safety.

(c) HOUSING.—(1)(A) Except as otherwise provided in this paragraph, no Federal funds may be used for the construction, purchase, lease, or operation by the Federal Government of housing in the United States for Federal employees or their dependents unless—

(i) in the case of a multifamily property acquired or rebuilt by the Federal Government after the date of enactment of this section, the housing is protected, before occupancy by Federal employees or their dependents, by an automatic sprinkler system (or equivalent level of safety) and hard-wired smoke detectors; and

(ii) in the case of any other housing, the housing, before—

(I) occupancy by the first Federal employees (or their dependents) who do not occupy such housing as of such date of enactment; or

(II) the expiration of 3 years after such date of enactment,

whichever occurs first, is protected by hard-wired smoke detectors.

(B) Nothing in this paragraph shall be construed to supersede any guidelines or requirements applicable to housing for Federal employees that call for a higher level of fire safety protection than is required under this paragraph.

(C) Housing covered by this paragraph that does not have an adequate and reliable electrical system shall not be subject to the requirement under subparagraph (A) for protection by hard-wired smoke detectors, but shall be protected by battery operated smoke detectors.

(D) If funding has been programmed or designated for the demolition of housing covered by this paragraph, such housing shall not be subject to the fire protection requirements of subparagraph (A), but shall be protected by battery operated smoke detectors.

(2)(A)(i) Housing assistance may not be used in connection with any newly constructed multifamily property, unless after the new construction the multifamily property is protected by an automatic sprinkler system and hard-wired smoke detectors.

(ii) For purposes of clause (i), the term "newly constructed multifamily property" means a multifamily property of 4 or more stories above ground level—

(I) that is newly constructed after the date of enactment of this section; and

(II) for which (a) housing assistance is used for such new construction, or (b) a binding commitment is made, before commencement of such construction, to provide housing assistance for the newly constructed property.

(iii) Clause (i) shall not apply to any multifamily property for which, before such date of enactment, a binding commitment is made to provide housing assistance for the new construction of the property or for the newly constructed property.

(B)(i) Except as provided in clause (ii), housing assistance may not be used in connection with any rebuilt multifamily property, unless after the rebuilding the multifamily property complies with the chapter on existing apartment buildings of National Fire Protection Association Standard 101 (known as the Life Safety Code) or any successor standard to that standard, as in effect at the earlier of (I) the time of any approval by the Department of Housing and Urban Development of the specific plan or budget for rebuilding, or (II) the time that a binding commitment is made to provide housing assistance for the rebuilt property.

(ii) If any rebuilt multifamily property is subject to, and in compliance with, any provision of a State or local fire safety standard or code that prevents compliance with a specific provision of National Fire Protection Association Standard 101 or any successor standard to that standard, the requirement under clause (i) shall not apply with respect to such specific provision.

(iii) For purposes of this subparagraph, the term "rebuilt multifamily property" means a multifamily property of 4 or more stories above ground level—

(I) that is rebuilt after the last day of the second fiscal year that ends after the date of enactment of this section; and

(II) for which (a) housing assistance is used for such rebuilding, or (b) a binding commitment is made, before commencement of such rebuilding, to provide housing assistance for the rebuilt property.

(C) After the expiration of the 180-day period beginning on the date of enactment of this section, housing assistance may not be used in connection with any other dwelling unit, unless the unit is protected by a hard-wired or battery-operated smoke detector. For purposes of this subparagraph, housing assistance shall be considered to be used in connection with a particular dwelling unit only if such assistance is provided (i) for the particular unit, in the case of assistance provided on a unit-by-unit basis, or (ii) for the multi-family property in which the unit is located, in the case of assistance provided on a structure-by-structure basis.

(d) REGULATIONS.—The Administrator of General Services, in cooperation with the United States Fire Administration, the National Institute of Standards and Technology, and the Department of Defense, within 2 years after the date of enactment of this section, shall promulgate regulations to further define the term “equivalent level of safety”, and shall, to the extent practicable, base those regulations on nationally recognized codes.

(e) STATE AND LOCAL AUTHORITY NOT LIMITED.—Nothing in this section shall be construed to limit the power of any State or political subdivision thereof to implement or enforce any law, rule, regulation, or standard that establishes requirements concerning fire prevention and control. Nothing in this section shall be construed to reduce fire resistance requirements which otherwise would have been required.

(f) PREFIRE PLAN.—The head of any Federal agency that owns, leases, or operates a building or housing unit with Federal funds shall invite the local agency or voluntary organization having responsibility for fire protection in the jurisdiction where the building or housing unit is located to prepare, and biennially review, a prefire plan for the building or housing unit.

(g) REPORTS TO CONGRESS.—(1) Within 3 years after the date of enactment of this section, and every 3 years thereafter, the Administrator of General Services shall transmit to Congress a report on the level of fire safety in Federal employee office buildings subject to fire safety requirements under this section. Such report shall contain a description of such buildings for each Federal agency.

(2) Within 10 years after the date of enactment of this section, each Federal agency providing housing to Federal employees or housing assistance shall submit a report to Congress on the progress of that agency in implementing subsection (c) and on plans for continuing such implementation.

(3)(A) The National Institute of Standards and Technology shall conduct a study and submit a report to Congress on the use, in combination, of fire detection systems, fire suppression systems, and compartmentation. Such study shall—

(i) quantify performance and reliability for fire detection systems, fire suppression systems, and compartmentation, including a field assessment of performance and determination of conditions under which a reduction or elimination of 1 or more

of those systems would result in an unacceptable risk of fire loss; and

(ii) include a comparative analysis and compartmentation using fire resistive materials and compartmentation using non-combustible materials.

(B) The National Institute of Standards and Technology shall obtain funding from non-Federal sources in an amount equal to 25 percent of the cost of the study required by subparagraph (A). Funding for the National Institute of Standards and Technology for carrying out such study shall be derived from amounts otherwise authorized to be appropriated, for the Building and Fire Research Center at the National Institute of Standards and Technology, not to exceed \$750,000. The study shall commence until receipt of all matching funds from non-Federal sources. The scope and extent of the study shall be determined by the level of project funding. The Institute shall submit a report to Congress on the study within 30 months after the date of enactment of this section.

(h) RELATION TO OTHER REQUIREMENTS.—In the implementation of this section, the process for meeting space needs in urban areas shall continue to give first consideration to a centralized community business area and adjacent areas of similar character to the extent of any Federal requirement therefor.

(15 U.S.C. 2227)

SEC. 32. CPR TRAINING.

No funds shall be made available to a State or local government under section 25 unless such government has a policy to actively promote the training of its firefighters in cardiopulmonary resuscitation.

(15 U.S.C. 2228)

SEC. 33. FIREFIGHTER ASSISTANCE.

(a) DEFINITION OF FIREFIGHTING PERSONNEL.—In this section, the term “firefighting personnel” means individuals, including volunteers, who are firefighters, officers of fire departments, or emergency medical service personnel of fire departments.

(b) ASSISTANCE PROGRAM.—

(1) AUTHORITY.—In accordance with this section, the Director may—

(A) make grants on a competitive basis directly to fire departments of a State, in consultation with the chief executive of the State, for the purpose of protecting the health and safety of the public and firefighting personnel against fire and fire-related hazards; and

(B) provide assistance for fire prevention programs in accordance with paragraph (4).

(2) ADMINISTRATIVE ASSISTANCE.—The Director shall establish specific criteria for the selection of recipients of assistance under this section and shall provide grant-writing assistance to applicants.

(3) USE OF FIRE DEPARTMENT GRANT FUNDS.—The Director may make a grant under paragraph (1)(A) only if the applicant for the grant agrees to use the grant funds for one or more of the following purposes:

(A) To hire additional firefighting personnel.

(B) To train firefighting personnel in firefighting, emergency response (including response to a terrorism incident or use of a weapon of mass destruction), arson prevention and detection, maritime firefighting, or the handling of hazardous materials, or to train firefighting personnel to provide any of the training described in this subparagraph.

(C) To fund the creation of rapid intervention teams to protect firefighting personnel at the scenes of fires and other emergencies.

(D) To certify fire inspectors.

(E) To establish wellness and fitness programs for firefighting personnel to ensure that the firefighting personnel can carry out their duties.

(F) To fund emergency medical services provided by fire departments.

(G) To acquire additional firefighting vehicles, including fire trucks.

(H) To acquire additional firefighting equipment, including equipment for fighting fires with foam in remote areas without access to water, and equipment for communications, monitoring, and response to a terrorism incident or use of a weapon of mass destruction.

(I) To acquire personal protective equipment required for firefighting personnel by the Occupational Safety and Health Administration, and other personal protective equipment for firefighting personnel, including protective equipment to respond to a terrorism incident or the use of a weapon of mass destruction.

(J) To modify fire stations, fire training facilities, and other facilities to protect the health and safety of firefighting personnel.

(K) To enforce fire codes.

(L) To fund fire prevention programs.

(M) To educate the public about arson prevention and detection.

(N) To provide incentives for the recruitment and retention of volunteer firefighting personnel for volunteer firefighting departments and other firefighting departments that utilize volunteers.

(4) FIRE PREVENTION PROGRAMS.—

(A) IN GENERAL.—For each fiscal year, the Director shall use not less than 5 percent of the funds made available under subsection (e)—

(i) to make grants to fire departments for the purpose described in paragraph (3)(L); and

(ii) to make grants to, or enter into contracts or cooperative agreements with, national, State, local, or community organizations that are recognized for their experience and expertise with respect to fire prevention or fire safety programs and activities, for the purpose of carrying out fire prevention programs.

(B) PRIORITY.—In selecting organizations described in subparagraph (A)(ii) to receive assistance under this para-

graph, the Director shall give priority to organizations that focus on prevention of injuries to children from fire.

(5) APPLICATION.—The Director may provide assistance to a fire department or organization under this subsection only if the fire department or organization seeking the assistance submits to the Director an application that meets the following requirements:

(A) FORM.—The application shall be in such form as the Director may require.

(B) INFORMATION.—The application shall include the following information:

(i) FINANCIAL NEED.—Information that demonstrates the financial need of the applicant for the assistance for which applied.

(ii) COST-BENEFIT ANALYSIS.—An analysis of the costs and benefits, with respect to public safety, of the use of the assistance.

(iii) REPORTING SYSTEMS DATA.—An agreement to provide information to the national fire incident reporting system for the period covered by the assistance.

(iv) OTHER INFORMATION.—Any other information that the Director may require.

(6) MATCHING REQUIREMENT.—

(A) IN GENERAL.—Subject to subparagraph (B), the Director may provide assistance under this subsection only if the applicant for the assistance agrees to match with an equal amount of non-Federal funds 30 percent of the assistance received under this subsection for any fiscal year.

(B) REQUIREMENT FOR SMALL COMMUNITY ORGANIZATIONS.—In the case of an applicant whose personnel serve jurisdictions of 50,000 or fewer residents, the percent applied under the matching requirement of subparagraph (A) shall be 10 percent.

(7) MAINTENANCE OF EXPENDITURES.—The Director may provide assistance under this subsection only if the applicant for the assistance agrees to maintain in the fiscal year for which the assistance will be received the applicant's aggregate expenditures for the uses described in paragraph (3) or (4) at or above the average level of such expenditures in the two fiscal years preceding the fiscal year for which the assistance will be received.

(8) REPORT TO THE DIRECTOR.—The Director may provide assistance under this subsection only if the applicant for the assistance agrees to submit to the Director a report, including a description of how the assistance was used, with respect to each fiscal year for which the assistance was received.

(9) VARIETY OF FIRE DEPARTMENT GRANT RECIPIENTS.—The Director shall ensure that grants under paragraph (1)(A) for a fiscal year are made to a variety of fire departments, including, to the extent that there are eligible applicants—

(A) paid, volunteer, and combination fire departments;

(B) fire departments located in communities of varying sizes; and

(C) fire departments located in urban, suburban, and rural communities.

(10) GRANT LIMITATIONS.—

(A) RECIPIENT LIMITATION.—A grant recipient under this section may not receive more than \$750,000 under this section for any fiscal year.

(B) LIMITATION ON EXPENDITURES FOR FIREFIGHTING VEHICLES.—Not more than 25 percent of the funds appropriated to provide grants under this section for a fiscal year may be used to assist grant recipients to purchase vehicles, as authorized by paragraph (3)(G).

(11) RESERVATION OF GRANT FUNDS FOR VOLUNTEER DEPARTMENTS.—In making grants to firefighting departments, the Director shall ensure that those firefighting departments that have either all-volunteer forces of firefighting personnel or combined forces of volunteer and professional firefighting personnel receive a proportion of the total grant funding that is not less than the proportion of the United States population that those firefighting departments protect.

(12) ELIGIBLE GRANTEE ON BEHALF OF ALASKA NATIVE VILLAGES.—The Alaska Village Initiatives, a non-profit organization incorporated in the State of Alaska, shall be considered an eligible grantee for purposes of receiving assistance under this section on behalf of Alaska Native villages.

(c) AUDITS.—A recipient of a grant under this section shall be subject to audits to ensure that the grant proceeds are expended for the intended purposes and that the grant recipient complies with the requirements of paragraphs (6) and (7) of subsection (b).

(d) STATE DEFINED.—In this section, the term “State” includes the District of Columbia and the Commonwealth of Puerto Rico.

(e) AUTHORIZATION OF APPROPRIATIONS.—

(1) IN GENERAL.—There are authorized to be appropriated \$900,000,000 for each of the fiscal years 2002 through 2004 for the purposes of this section. Of the amounts authorized in this paragraph, \$3,000,000 shall be made available each year through fiscal year 2008 for foam firefighting equipment.

(2) ADMINISTRATIVE EXPENSES.—Of the funds appropriated pursuant to paragraph (1) for a fiscal year, the Director may use not more than three percent of the funds to cover salaries and expenses and other administrative costs incurred by the Director to make grants and provide assistance under this section.

(15 U.S.C. 2229)

SEC. 34. EXPANSION OF PRE-SEPTEMBER 11, 2001, FIRE GRANT PROGRAM.

(a) EXPANDED AUTHORITY TO MAKE GRANTS.—

(1) HIRING GRANTS.—(A) The Administrator shall make grants directly to career, volunteer, and combination fire departments, in consultation with the chief executive of the State in which the applicant is located, for the purpose of increasing the number of firefighters to help communities meet industry minimum standards and attain 24-hour staffing to provide adequate protection from fire and fire-related hazards, and to ful-

fill traditional missions of fire departments that antedate the creation of the Department of Homeland Security.

(B)(i) Grants made under this paragraph shall be for 4 years and be used for programs to hire new, additional firefighters.

(ii) Grantees are required to commit to retaining for at least 1 year beyond the termination of their grants those firefighters hired under this paragraph.

(C) In awarding grants under this subsection, the Administrator may give preferential consideration to applications that involve a non-Federal contribution exceeding the minimums under subparagraph (E).

(D) The Administrator may provide technical assistance to States, units of local government, Indian tribal governments, and to other public entities, in furtherance of the purposes of this section.

(E) The portion of the costs of hiring firefighters provided by a grant under this paragraph may not exceed—

(i) 90 percent in the first year of the grant;

(ii) 80 percent in the second year of the grant;

(iii) 50 percent in the third year of the grant; and

(iv) 30 percent in the fourth year of the grant.

(F) Notwithstanding any other provision of law, any firefighter hired with funds provided under this subsection shall not be discriminated against for, or be prohibited from, engaging in volunteer activities in another jurisdiction during off-duty hours.

(G) All grants made pursuant to this subsection shall be awarded on a competitive basis through a neutral peer review process.

(H) At the beginning of the fiscal year, the Administrator shall set aside 10 percent of the funds appropriated for carrying out this paragraph for departments with majority volunteer or all volunteer personnel. After awards have been made, if less than 10 percent of the funds appropriated for carrying out this paragraph are not awarded to departments with majority volunteer or all volunteer personnel, the Administrator shall transfer from funds appropriated for carrying out this paragraph to funds available for carrying out paragraph (2) an amount equal to the difference between the amount that is provided to such fire departments and 10 percent.

(2) RECRUITMENT AND RETENTION GRANTS.—In addition to any amounts transferred under paragraph (1)(H), the Administrator shall direct at least 10 percent of the total amount of funds appropriated pursuant to this section annually to a competitive grant program for the recruitment and retention of volunteer firefighters who are involved with or trained in the operations of firefighting and emergency response. Eligible entities shall include volunteer or combination fire departments, and organizations on a local or statewide basis that represent the interests of volunteer firefighters.

(b) APPLICATIONS.—(1) No grant may be made under this section unless an application has been submitted to, and approved by, the Administrator.

(2) An application for a grant under this section shall be submitted in such form, and contain such information, as the Administrator may prescribe.

(3) At a minimum, each application for a grant under this section shall—

(A) explain the applicant's inability to address the need without Federal assistance;

(B) in the case of a grant under subsection (a)(1), explain how the applicant plans to meet the requirements of subsection (a)(1)(B)(ii) and (F);

(C) specify long-term plans for retaining firefighters following the conclusion of Federal support provided under this section; and

(D) provide assurances that the applicant will, to the extent practicable, seek, recruit, and hire members of racial and ethnic minority groups and women in order to increase their ranks within firefighting.

(c) LIMITATION ON USE OF FUNDS.—(1) Funds made available under this section to fire departments for salaries and benefits to hire new, additional firefighters shall not be used to supplant State or local funds, or, in the case of Indian tribal governments, funds supplied by the Bureau of Indian Affairs, but shall be used to increase the amount of funds that would, in the absence of Federal funds received under this section, be made available from State or local sources, or in the case of Indian tribal governments, from funds supplied by the Bureau of Indian Affairs.

(2) No grant shall be awarded pursuant to this section to a municipality or other recipient whose annual budget at the time of the application for fire-related programs and emergency response has been reduced below 80 percent of the average funding level in the 3 years prior to the date of enactment of this section.

(3) Funds appropriated by the Congress for the activities of any agency of an Indian tribal government or the Bureau of Indian Affairs performing firefighting functions on any Indian lands may be used to provide the non-Federal share of the cost of programs or projects funded under this section.

(4)(A) Total funding provided under this section over 4 years for hiring a firefighter may not exceed \$100,000.

(B) The \$100,000 cap shall be adjusted annually for inflation beginning in fiscal year 2005.

(d) PERFORMANCE EVALUATION.—The Administrator may require a grant recipient to submit any information the Administrator considers reasonably necessary to evaluate the program.

(e) SUNSET AND REPORTS.—The authority under this section to make grants shall lapse at the conclusion of 10 years from the date of enactment of this section. Not later than 6 years after the date of the enactment of this section, the Administrator shall submit a report to Congress concerning the experience with, and effectiveness of, such grants in meeting the objectives of this section. The report may include any recommendations the Administrator may have for amendments to this section and related provisions of law.

(f) REVOCATION OR SUSPENSION OF FUNDING.—If the Administrator determines that a grant recipient under this section is not in substantial compliance with the terms and requirements of an approved grant application submitted under this section, the Ad-

administrator may revoke or suspend funding of that grant, in whole or in part.

(g) ACCESS TO DOCUMENTS.—(1) The Administrator shall have access for the purpose of audit and examination to any pertinent books, documents, papers, or records of a grant recipient under this section and to the pertinent books, documents, papers, or records of State and local governments, persons, businesses, and other entities that are involved in programs, projects, or activities for which assistance is provided under this section.

(2) Paragraph (1) shall apply with respect to audits and examinations conducted by the Comptroller General of the United States or by an authorized representative of the Comptroller General.

(h) DEFINITIONS.—In this section, the term—

(1) “firefighter” has the meaning given the term “employee in fire protection activities” under section 3(y) of the Fair Labor Standards Act (29 U.S.C. 203(y)); and

(2) “Indian tribe” means a tribe, band, pueblo, nation, or other organized group or community of Indians, including an Alaska Native village (as defined in or established under the Alaska Native Claims Settlement Act (43 U.S.C. 1601 et seq.)), that is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.

(i) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated for the purposes of carrying out this section—

- (1) \$1,000,000,000 for fiscal year 2004;
- (2) \$1,030,000,000 for fiscal year 2005;
- (3) \$1,061,000,000 for fiscal year 2006;
- (4) \$1,093,000,000 for fiscal year 2007;
- (5) \$1,126,000,000 for fiscal year 2008;
- (6) \$1,159,000,000 for fiscal year 2009; and
- (7) \$1,194,000,000 for fiscal year 2010.

(15 U.S.C. 2229a)

SEC. 35. SURPLUS AND EXCESS FEDERAL EQUIPMENT.

The Administrator shall make publicly available, including through the Internet, information on procedures for acquiring surplus and excess equipment or property that may be useful to State and local fire, emergency, and hazardous material handling service providers.

(15 U.S.C. 2230)

SEC. 36. COOPERATIVE AGREEMENTS WITH FEDERAL FACILITIES.

The Administrator shall make publicly available, including through the Internet, information on procedures for establishing cooperative agreements between State and local fire and emergency services and Federal facilities in their region relating to the provision of fire and emergency services.

(15 U.S.C. 2231)

NATIONAL SCIENCE FOUNDATION ACT OF 1950

AN ACT To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, [42 U.S.C. 1861 note] That this Act may be cited as the "National Science Foundation Act of 1950."

ESTABLISHMENT OF NATIONAL SCIENCE FOUNDATION

SEC. 2. [42 U.S.C. 1861] There is hereby established in the executive branch of the Government an independent agency to be known as the National Science Foundation (hereinafter referred to as the "Foundation"). The Foundation shall consist of a National Science Board (hereinafter referred to as the "Board") and a Director.

FUNCTIONS OF THE FOUNDATION

SEC. 3. [42 U.S.C. 1862] (a) The Foundation is authorized and directed—

(1) to initiate and support basic scientific research and programs to strengthen scientific research potential and science education programs at all levels in the mathematical, physical, medical, biological, social, and other sciences, and to initiate and support research fundamental to the engineering process and programs to strengthen engineering research potential and engineering education programs at all levels in the various fields of engineering, by making contracts or other arrangements (including grants, loans, and other forms of assistance) to support such scientific, engineering, and educational activities and to appraise the impact of research upon industrial development and upon the general welfare;

(2) to award, as provided in section 10, scholarships and graduate fellowships for study and research in the sciences or in engineering;

(3) to foster the interchange of scientific and engineering information among scientists and engineers in the United States and foreign countries;

(4) to foster and support the development and use of computer and other scientific and engineering methods and technologies, primarily for research and education in the sciences and engineering;

(5) to evaluate the status and needs of the various sciences and fields of engineering as evidenced by programs, projects, and studies undertaken by agencies of the Federal Govern-

ment, by individuals, and by public and private research groups, employing by grant or contract such consulting services as it may deem necessary for the purpose of such evaluations; and to take into consideration the results of such evaluations in correlating the research and educational programs undertaken or supported by the Foundation with programs, projects, and studies undertaken by agencies of the Federal Government, by individuals, and by public and private research groups;

(6) to provide a central clearinghouse for the collection, interpretation, and analysis of data on scientific and engineering and to provide a source of information for policy formulation by other agencies of the Federal Government;

(7) to initiate and maintain a program for the determination of the total amount of money for scientific and engineering research, including money allocated for the construction of the facilities wherein such research is conducted, received by each educational institution and appropriate nonprofit organization in the United States, by grant, contract, or other arrangement from agencies of the Federal Government, and to report annually thereon to the President and the Congress; and

(8) to take a leading role in fostering and supporting research and education activities to improve the security of networked information systems.

(b) The Foundation is authorized to initiate and support specific scientific and engineering activities in connection with matters relating to international cooperation, national security, and the effects of scientific and engineering applications upon society by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such activities. When initiated or supported pursuant to requests made by any other Federal department or agency, including the Office of Technology Assessment, such activities shall be financed whenever feasible from funds transferred to the Foundation by the requesting official as provided in section 14(f), and any such activities shall be unclassified and shall be identified by the Foundation as being undertaken at the request of the appropriate official.

(c) In addition to the authority contained in subsections (a) and (b), the Foundation is authorized to initiate and support scientific and engineering research, including applied research, at academic and other nonprofit institutions. When so directed by the President, the Foundation is further authorized to support, through other appropriate organizations, applied scientific research and engineering research relevant to national problems involving the public interest. In exercising the authority contained in this subsection, the Foundation may employ by grant or contract such consulting services as it deems necessary, and shall coordinate and correlate its activities with respect to any such problem with other agencies of the Federal Government undertaking similar programs in that field.

(d) The Board and the Director shall recommend and encourage the pursuit of national policies for the promotion of research and education in science and engineering.

(e) In exercising the authority and discharging the functions referred to in the foregoing subsections, it shall be an objective of

the Foundation to strengthen research and education in the sciences and engineering, including independent research by individuals, throughout the United States, and to avoid undue concentration of such research and education.

(f) The Foundation shall render an annual report to the President for submission on or before the 15th day of April of each year to the Congress, summarizing the activities of the Foundation and making such recommendations as it may deem appropriate. Such report shall include information as to the acquisition and disposition by the Foundation of any patents and patent rights.

(g) In carrying out subsection (a)(4), the Foundation is authorized to foster and support access by the research and education communities to computer networks which may be used substantially for purposes in addition to research and education in the sciences and engineering, if the additional uses will tend to increase the overall capabilities of the networks to support such research and education activities.

NATIONAL SCIENCE BOARD

SEC. 4. [42 U.S.C. 1863] (a) The Board shall consist of twenty-four members to be appointed by the President, by and with the advice and consent of the Senate, and of the Director ex officio. In making nominations under this section, the President shall give due regard to equitable representation of scientists who are women or who represent minority groups. In addition to any powers and functions otherwise granted to it by this Act, the Board shall establish the policies of the Foundation.

(b) The Board shall have an Executive Committee as provided in section 7, and may delegate to it or to the Director or both such of the powers and functions granted to the Board by this Act as it deems appropriate.

(c) The persons nominated for appointment as members of the Board (1) shall be eminent in the fields of the basic, medical, or social sciences, engineering, agriculture, education, research management or public affairs; (2) shall be selected solely on the basis of established records of distinguished service and (3) shall be so selected as to provide representation of the views of scientific and engineering leaders in all areas of the Nation. In making nominations under this section, the President shall give due regard to equitable representation of scientists and engineering who are women or who represent minority groups. The President is requested, in the making of nominations of persons for appointment as members, to give due consideration to any recommendations for nomination which may be submitted to him by the National Academy of Sciences, the National Academy of Engineering, the National Association of State Universities and Land Grant Colleges, the Association of American Universities, the Association of American Colleges, the Association of State Colleges and Universities, or by other scientific, engineering, or educational organizations.

(d) The term of office of each member of the Board shall be six years; except that any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term. Any person, other than the Director, who has been a member of the Board for twelve consecutive years shall thereafter be ineligible for

appointment during the two-year period following the expiration of such twelfth year.

(e) The Board shall meet annually on the third Monday in May unless, prior to May 10 in any year, the Chairman has set the annual meeting for a day in May other than the third Monday and at such other times as the Chairman may determine, but he shall also call a meeting whenever one-third of the members so request in writing. The Board shall adopt procedures governing the conduct of its meetings, including delivery of notice and a definition of a quorum, which in no case shall be less than one-half plus one of the confirmed members of the Board.

(f) The election of the Chairman and Vice Chairman of the Board shall take place at each annual meeting occurring in an even-numbered year. The Vice Chairman shall perform the duties of the Chairman in his absence. In case a vacancy occurs in the chairmanship or vice chairmanship, the Board shall elect a member to fill such vacancy.

(g) The Board may, with the concurrence of a majority of its members, permit the appointment of a staff consisting of not more than five professional staff members and such clerical staff members as may be necessary. Such staff shall be appointed by the Chairman and assigned at the direction of the Board. The professional members of such staff may be appointed without regard to the provisions of title 5, United States Code, governing appointments in the competitive service, and the provisions of chapter 51 of such title relating to classification, and compensated at a rate not exceeding the maximum rate payable under section 5376 of such title, as may be necessary to provide for the performance of such duties as may be prescribed by the Board in connection with the exercise of its powers and functions under this Act. Each appointment under this subsection shall be subject to the same security requirements as those required for personnel of the Foundation appointed under section 14(a).

(h) The Board is authorized to establish such special commissions as it may from time to time deem necessary for the purposes of this Act.

(i) The Board is also authorized to appoint from among its members such committees as it deems necessary, and to assign to committees so appointed such survey and advisory functions as the Board deems appropriate to assist it in exercising its powers and functions under this Act.

(j)(1) The Board shall render to the President, for submission to the Congress no later than January 15 of each even numbered year, a report on indicators of the state of science and engineering in the United States.

(2) The Board shall render to the President for submission to the Congress reports on specific, individual policy matters related to science and engineering and education in science and engineering, as the Board, the President, or the Congress determines the need for such reports.

(k) Portions of Board meetings in which the Board considers proposed Foundation budgets for a particular fiscal year may be closed to the public until the President's budget for that fiscal year has been submitted to the Congress.

(1) Members of the Board shall be required to file a financial disclosure report under title II of the Ethics in Government Act of 1978 (5 U.S.C. App. 92 Stat. 1836), except that such reports shall be held confidential and exempt from any law otherwise requiring their public disclosure.

DIRECTOR OF THE FOUNDATION

SEC. 5. [42 U.S.C. 1864] (a) The Director of the Foundation (referred to in this Act as the "Director") shall be appointed by the President by and with the advice and consent of the Senate. Before any person is appointed as Director, the President shall afford the Board an opportunity to make recommendations to him with respect to such appointment. The Director shall receive basic pay at the rate provided for level II of the Executive Schedule under section 5313 of title 5, United States Code, and shall serve for a term of six years unless sooner removed by the President.

(b) Except as otherwise specifically provided in this Act (1) the Director shall exercise all of the authority granted to the Foundation by this Act (including any powers and functions which may be delegated to him by the Board), and (2) all actions taken by the Director pursuant to the provisions of this Act (or pursuant to the terms of a delegation from the Board) shall be final and binding upon the Foundation.

(c) The Director may from time to time make such provisions as he deems appropriate authorizing the performance by any other officer, agency, or employee of the Foundation of any of his functions under this Act, including functions delegated to him by the Board; except that the Director may not redelegate policy-making functions delegated to him by the Board.

(d) The formulation of programs in conformance with the policies of the Foundation shall be carried out by the Director in consultation with the Board.

(e)(1) The Director may make grants, contracts, and other arrangements pursuant to section 11(c) only with the prior approval of the Board, or under authority delegated by the Board, and subject to such conditions as the Board may specify.

(2) Any delegation of authority or imposition of conditions under paragraph (1) shall be promptly published in the Federal Register and reported to the Committee on Labor and Human Resources, and the Committee on Commerce, Science, and Transportation, of the Senate and the Committee on Science of the House of Representatives.

(f) The Director, in his capacity as ex officio member of the Board, shall, except with respect to compensation and tenure, be coordinate with the other members of the Board. He shall be a voting member of the Board and shall be eligible for election by the Board as Chairman or Vice Chairman of the Board.

DEPUTY DIRECTOR AND ASSISTANT DIRECTORS

SEC. 6. [42 U.S.C. 1864a] There shall be a Deputy Director of the Foundation (referred to in this Act as the "Deputy Director") who shall be appointed by the President, by and with the advice and consent of the Senate. Before any person is appointed as Deputy Director, the President shall afford the Board and the Director

an opportunity to make recommendations to him with respect to such appointment. The Deputy Director shall receive basic pay at the rate provided for level III of the Executive Schedule under section 5314 of title 5, United States Code, and shall perform such duties and exercise such powers as the Director may prescribe. The Deputy Director shall act for, and exercise the powers of, the Director during the absence or disability of the Director or in the event of a vacancy in the office of Director.

EXECUTIVE COMMITTEE

SEC. 7. [42 U.S.C. 1865] (a) There shall be an Executive Committee of the Board (referred to in this Act as the "Executive Committee"), which shall be composed of five members and shall exercise such powers and functions as may be delegated to it by the Board. Four of the members shall be elected as provided in subsection (b), and the Director ex officio shall be the fifth member and the chairman of the Executive Committee.

(b) At each of its annual meetings the Board shall elect two of its members as members of the Executive Committee, and the Executive Committee members so elected shall hold office for two years from the date of their election. Any person, other than the Director, who has been a member of the Executive Committee for six consecutive years shall thereafter be ineligible for service as a member thereof during the two-year period following the expiration of such sixth year. For the purposes of this subsection, the period between any two consecutive annual meetings of the Board shall be deemed to be one year.

(c) Any person elected as a member of the Executive Committee to fill a vacancy occurring prior to the expiration of the term for which his predecessor was elected shall be elected for the remainder of such term.

(d) The Executive Committee shall render an annual report to the Board, and such other reports as it may deem necessary, summarizing its activities and making such recommendations as it may deem appropriate. Minority views and recommendations, if any, of members of the Executive Committee shall be included in such reports.

DIVISIONS WITHIN THE FOUNDATION

SEC. 8. [42 U.S.C. 1866] There shall be within the Foundation such Divisions as the Director, in consultation with the Board, may from time to time determine.

SPECIAL COMMISSIONS

SEC. 9. [42 U.S.C. 1868] (a) Each special commission established under section 4(h) shall be appointed by the Board and shall consist of such members as the Board considers appropriate.

(b) Special commissions may be established to study and make recommendations to the Foundation on issues relating to research and education in science and engineering.

SCHOLARSHIPS AND GRADUATE FELLOWSHIPS

SEC. 10. [42 U.S.C. 1869] The Foundation is authorized to award scholarships and graduate fellowships for study and re-

search in the sciences or in engineering at appropriate nonprofit American or nonprofit foreign institutions selected by the recipient of such aid, for stated periods of time. Persons shall be selected for such scholarships and fellowships from among citizens, nationals or lawfully admitted permanent resident aliens of the United States, and such selections shall be made solely on the basis of ability; but in any case in which two or more applicants for scholarships or fellowships, as the case may be, are deemed by the Foundation to be possessed of substantially equal ability, and there are not sufficient scholarships or fellowships, as the case may be, available to grant one to each of such applicants, the available scholarship or scholarships, fellowship or fellowships shall be awarded to the applicants in such manner as will tend to result in a wide distribution of scholarships and fellowships throughout the United States. Nothing contained in this Act shall prohibit the Foundation from refusing or revoking a scholarship or fellowship award, in whole or in part, in the case of any applicant or recipient, if the Board is of the opinion that such award is not in the best interests of the United States.

GENERAL AUTHORITY OF FOUNDATION

SEC. 11. [42 U.S.C. 1870] The Foundation shall have the authority, within the limits of available appropriations, to do all things necessary to carry out the provisions of this Act, including, but without being limited thereto, the authority—

(a) to prescribe such rules and regulations as it deems necessary governing the manner of its operations and its organization and personnel;

(b) to make such expenditures as may be necessary for administering the provisions of this Act;

(c) to enter into contracts or other arrangements, or modifications thereof, for the carrying on, by organizations or individuals in the United States and foreign countries, including other government agencies of the United States and of foreign countries, of such scientific or engineering activities as the Foundation deems necessary to carry out the purposes of this Act, and, at the request of the Secretary of State or Secretary of Defense, specific scientific or engineering activities in connection with matters relating to international cooperation or national security, and, when deemed appropriate by the Foundation, such contracts or other arrangements or modifications thereof, may be entered into without legal consideration without performance or other bonds and without regard to section 3709 of the Revised Statutes (41 U.S.C. § 5);

(d) to make advance, progress, and other payments which relate to scientific or engineering activities without regard to the provisions of section 3648 of the Revised Statutes (31 U.S.C. 529);

(e) to acquire by purchase, lease, loan, gift, or condemnation, and to hold and dispose of by grant, sale, lease, or loan, real and personal property of all kinds necessary for, or resulting from, the exercise of authority granted by this Act;

(f) to receive and use funds donated by others, if such funds are donated without restriction other than that they be

used in furtherance of one or more of the general purposes of the Foundation;

(g) to publish or arrange for the publication of scientific and engineering information so as to further the full dissemination of information of scientific or engineering value consistent with the national interest, without regard to the provisions of section 87 by the Act of January 12, 1895 (28 Stat. 622), and section 11 of the Act of March 1, 1919 (40 Stat. 1270; 44 U.S.C. § 501);

(h) to accept and utilize the services of voluntary and uncompensated personnel and to provide transportation and subsistence as authorized by section 5703 of title 5, United States Code, for persons serving without compensation;

(i) to prescribe, with the approval of the Comptroller-General of the United States, the extent to which vouchers for funds expended under contracts for scientific or engineering research shall be subject to itemization or substantiation prior to payment, without regard to the limitations of other laws relating to the expenditure of public funds and accounting therefor;

(j) to arrange with and reimburse the heads of other Federal agencies for the performance of any activity which the Foundation is authorized to conduct; and

(k) during the 5-year period beginning on the date of the enactment of the National Science Foundation Authorization Act for Fiscal Year 1987, to indemnify grantees, contractors, and subcontractors associated with the Ocean Drilling Program under the provisions of section 2354 of title 10, United States Code, with all approvals and certifications required by such indemnification made by the Director.

PATENT RIGHTS

SEC. 12. [42 U.S.C. 1871] Each contract or other arrangement executed pursuant to this Act which relates to scientific or engineering research shall contain provisions governing the disposition of inventions produced thereunder in a manner calculated to protect the public interest and the equities of the individual or organization with which the contract or other arrangement is executed: *Provided, however,* That nothing in this Act shall be construed to authorize the Foundation to enter into any contractual or other arrangement inconsistent with any provision of law affecting the issuance or use of patents.

INTERNATIONAL COOPERATION AND COORDINATION WITH FOREIGN POLICY

SEC. 13. [42 U.S.C. 1872] (a) The Foundation is hereby authorized to cooperate in any international scientific or engineering activities consistent with the purposes of this Act and to expend for such international scientific or engineering activities such sums within the limit of appropriated funds as the Foundation may deem desirable. The Director may defray the expenses of representatives of Government agencies and other organizations and of individual scientists or engineers to accredited international scientific or engineering congresses and meetings whenever he deems it necessary in the promotion of the objectives of this Act. In this connection,

with the approval of the Secretary of State, the Foundation may undertake programs, granting fellowships to, or making other similar arrangements with, foreign nationals for study and research in the sciences or in engineering in the United States without regard to section 10 or the affidavit of allegiance to the United States required by section 15(d)(2) of this Act¹.

(b)(1) The authority to enter into contracts or other arrangements with organizations or individuals in foreign countries and with agencies of foreign countries, as provided in section 11(c), and the authority to cooperate in international scientific or engineering activities as provided in subsection (a) of this section, shall be exercised only with the approval of the Secretary of State, to the end that such authority shall be exercised in such manner as is consistent with the foreign policy objectives of the United States.

(2) If, in the exercise of the authority referred to in paragraph (1) of this subsection, negotiation with foreign countries or agencies thereof becomes necessary, such negotiation shall be carried on by the Secretary of State in consultation with the Director.

MISCELLANEOUS PROVISIONS

SEC. 14. [42 U.S.C. 1873] (a)(1) The Director shall, in accordance with such policies as the Board shall from time to time prescribe, appoint and fix the compensation of such personnel as may be necessary to carry out the provisions of this Act. Except as provided in section 4(h), such appointments shall be made and such compensation shall be fixed in accordance with the provisions of title 5, United States Code, governing appointments in the competitive service, and the provisions of chapter 51 and subchapter III of chapter 53 of such title relating to classification and General Schedule pay rates: *Provided*, That the Director may, in accordance with such policies as the Board shall from time to time prescribe, employ such technical and professional personnel and fix their compensation, without regard to such provisions, as he may deem necessary for the discharge of the responsibilities of the Foundation under this Act. The members of the special commissions shall be appointed without regard to the provisions of title 5, United States Code, governing appointments in the competitive service.

(2) The Director may, under the authority provided by paragraph (1) of this subsection and in accordance with such policies as the Board chooses to prescribe, appoint for a limited term, or on a temporary basis, scientists, engineers, and other technical and professional personnel on leave of absence from academic, industrial, or research institutions to work for the Foundation.

(3) The Foundation may pay, to the extent authorized for certain other Federal employees by section 5723 of title 5, United States Code, travel expenses for any individual appointed for a limited term or on a temporary basis and transportation expenses of his or her immediate family and his or her household goods and personal effects from that individual's residence at the time of selection or assignment to his or her duty station. The Foundation may pay such travel expenses and transportation expenses to the same extent for such an individual's return to the former place of residence from his or her duty station, upon separation from the

¹ So in law. Subsection (d) of section 15 no longer exists.

Federal service following an agreed period of service. The Foundation may also pay a per diem allowance at a rate not to exceed the daily amounts prescribed under section 5702 of title 5, United States Code, to such an individual, in lieu of transportation expenses of the immediate family and household goods and personal effects, for the period of his or her employment with the Foundation. Notwithstanding any other provision of law, the employer's contribution to any retirement, life insurance, or health benefit plan for an individual appointed for a term of one year or less, which could be extended for no more than one additional year, may be made or reimbursed from appropriations available to the Foundation.

(b) The Foundation shall not, itself, operate any laboratories or pilot plants.

(c) The members of the Board and the members of each special commission shall be entitled to receive compensation for each day engaged in the business of the Foundation at a rate fixed by the Chairman but not exceeding the maximum rate payable under section 5376 of title 5, United States Code, and shall be allowed travel expenses as authorized by section 5703 of title 5, United States Code. For the purposes of determining the payment of compensation under this subsection, the time spent in travel by any member of the Board or any member of a special commission shall be deemed as time engaged in the business of the Foundation. Members of the Board and members of special commissions may waive compensation and reimbursement for traveling expenses.

(d) Persons holding other offices in the executive branch of the Federal Government may serve as members of the special commissions, but they shall not receive remuneration for their services as such members during any period for which they receive compensation for their services in such other offices.

(e) In making contracts or other arrangements for scientific or engineering research, the Foundation shall utilize appropriations available therefor in such manner as will in its discretion best realize the objectives of (1) having the work performed by organizations, agencies, and institutions, or individuals in the United States or foreign countries, including Government agencies of the United States and of foreign countries, qualified by training and experience to achieve the results desired, (2) strengthening the research staff of organizations, particularly nonprofit organizations, in the United States, (3) aiding institutions, agencies or organizations which, if aided, will advance scientific or engineering research, and (4) encouraging independent scientific research by individuals.

(f) Funds available to any department or agency of the Government for scientific or engineering research or education, or the provision of facilities therefor, shall be available for transfer, with the approval of the head of the department or agency involved, in whole or in part, to the Foundation for such use as is consistent with the purposes for which such funds were provided, and funds so transferred shall be expendable by the Foundation for the purposes for which the transfer was made.

(g) For purposes of this Act, the term "United States" when used in a geographical sense means the States, the District of Co-

lumbia, the Commonwealth of Puerto Rico, and all territories and possessions of the United States.

(h) Notwithstanding any other provision of law, the authorization of any appropriation to the Foundation shall expire (unless an earlier expiration is specifically provided) at the close of the second fiscal year following the fiscal year for which the authorization was enacted, to the extent that such appropriation has not theretofore actually been made.

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

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

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

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

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

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

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

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

SECURITY PROVISIONS

SEC. 15. [42 U.S.C. 1874] (a) The Foundation shall not support any research or development activity in the field of nuclear energy, nor shall it exercise any authority pursuant to section 11(e) in respect to that field, without first having obtained the concur-

rence of the Secretary of Energy that such activity will not adversely affect the common defense and security. To the extent that such activity involves restricted data as defined in the Atomic Energy Act of 1954 the provisions of that Act regarding the control of the dissemination of restricted data and the security clearance of those individuals to be given access to restricted data shall be applicable. Nothing in this Act shall supersede or modify any provision of the Atomic Energy Act of 1954.

(b)(1) In the case of scientific or engineering research activities under this Act in connection with matters relating to the national defense, with respect to which funds have been transferred to the Foundation from the Department of Defense in accordance with the provisions of section 14(f) of this Act, the Secretary of Defense shall establish such security requirements and safeguards, including restrictions with respect to access to information and property, as he deems necessary.

(2) In the case of scientific or engineering research activities under this Act in connection with matters relating to the national defense other than research activities referred to in paragraph (1) of this subsection, the Foundation shall establish such security requirements and safeguards, including restrictions with respect to access to information and property as it deems necessary.

(3) Any agency of the Government exercising investigatory functions is hereby authorized to make such investigations and reports as may be requested by the Foundation in connection with the enforcement of security requirements and safeguards, including restrictions with respect to access to information and property, established under paragraph (1) or (2) of this subsection.

APPROPRIATIONS

SEC. 16. [42 U.S.C. 1875] To enable the Foundation to carry out its powers and duties, only such sums may be appropriated as the Congress may authorize by law.

NATIONAL SCIENCE FOUNDATION AUTHORIZATION ACT OF 2002

AN ACT To authorize appropriations for fiscal years 2003, 2004, 2005, 2006, and 2007 for the National Science Foundation, and for other purposes.

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

SECTION 1. [42 U.S.C. 1861 note] SHORT TITLE.

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

SEC. 2. [42 U.S.C. 1862n note] FINDINGS.

Congress finds the following:

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

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

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

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

(5) The National Science Foundation must be provided with sufficient resources to enable it to carry out its responsibilities to develop intellectual capital, strengthen the scientific infrastructure, integrate research and education, enhance the delivery of mathematics and science education in the United States, and improve the technological literacy of all people in the United States.

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

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

SEC. 3. POLICY OBJECTIVES.

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

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

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

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

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

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

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

(2) To increase overall workforce skills by—

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

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

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

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

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

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

SEC. 4. [42 U.S.C. 1862n note] DEFINITIONS.

In this Act:

(1) **ACADEMIC UNIT.**—The term “academic unit” means a department, division, institute, school, college, or other sub-component of an institution of higher education.

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

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

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

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

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

(7) **FOUNDATION.**—The term “Foundation” means the National Science Foundation established under section 2 of the National Science Foundation Act of 1950 (42 U.S.C. 1861).

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

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

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

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

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

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

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

(10) **LOCAL EDUCATIONAL AGENCY.**—The term “local educational agency” has the meaning given such term by section

9101(26) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801(26)).

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

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

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

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

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

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

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

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

(14) **STATE.**—Except with respect to the Experimental Program to Stimulate Competitive Research, the term “State” means one of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or any other territory or possession of the United States.

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

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

SEC. 5. AUTHORIZATION OF APPROPRIATIONS.

(a) **FISCAL YEAR 2003.**—

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

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

(A) \$4,155,690,000 shall be made available to carry out research and related activities, of which \$704,000,000 shall be for information technology research described in paragraph (1) of section 8 and \$301,000,000 shall be for

nanoscale science and engineering described in paragraph (2) of section 8;

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

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

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

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

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

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

(E) \$3,500,000 shall be made available for the Office of the National Science Board, including salaries and compensation for members of the Board and staff appointed under section 4 of the National Science Foundation Act of 1950 (42 U.S.C. 1863), travel and training costs for members of the Board and such staff, general and Board operating expenses, representational expenses for the Board, honorary awards made by the Board, Board reports (other than the report entitled "Science and Engineering Indicators"), and contracts; and

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

(b) FISCAL YEAR 2004.—

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

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

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

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

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

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

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

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

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

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

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

(c) FISCAL YEAR 2005.—

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

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

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

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

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

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

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

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

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

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

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

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

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

(f) CONTINGENT AUTHORIZATION.—

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

(A) strategic management of human capital;

(B) competitive sourcing;

(C) improved financial performance;

(D) expanded electronic government; and

(E) budget and performance integration.

(2) CONSIDERATION.—In making that determination, Congress shall take into consideration whether or not the Director of the Office of Management and Budget has certified that the Foundation has, overall, made successful progress toward meeting those goals.

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

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

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

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

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

(e) FISCAL YEAR 2007.—None of the funds authorized under section 5(e) may be obligated for major research equipment and facilities construction until 30 days after the report required by June 15, 2006, under section 14(a)(2) is transmitted to the Congress.

SEC. 7. ANNUAL PLAN FOR ALLOCATION OF FUNDING.

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

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

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

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

SEC. 8. SPECIFIC PROGRAM AUTHORIZATIONS.

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

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

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

(A) research aimed at discovering novel phenomena, processes, materials, and tools that address grand challenges in materials, electronics, optoelectronics and magnetics, manufacturing, the environment, and health care; and

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

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

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

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

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

(i) basic plant genomics research and genomics applications, including those related to cultivation of crops in extreme environments and to cultivation of crops with reduced reliance on fertilizer, herbicides, and pesticides;

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

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

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

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

(C) Research partnerships to focus on—

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

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

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

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

Competitive, merit-based awards for partnerships under this subparagraph shall be to institutions of higher education, non-

profit organizations, or consortia of such entities that enter into a partnership that shall include one or more research institutions in one or more developing nations, and that may also include for-profit companies involved in plant biotechnology. The Director, by means of outreach, shall encourage inclusion of historically Black colleges and universities, Hispanic-serving institutions, tribally controlled colleges and universities, Alaska Native-serving institutions, and Native Hawaiian-serving institutions in consortia that enter into such partnerships.

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

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

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

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

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

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

- (i) interdisciplinary teaching;
- (ii) undergraduate-conducted research;
- (iii) mentor relationships for students;
- (iv) bridge programs that enable students at community colleges to matriculate directly into baccalaureate science, mathematics, engineering, or technology programs;
- (v) internships carried out in partnership with industry; and
- (vi) innovative uses of digital technologies, particularly at institutions of higher education that serve high numbers or percentages of economically disadvantaged students.

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

bachelor's degrees in science, mathematics, engineering, or technology.

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

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

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

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

- (i) an institution of higher education;
- (ii) a consortium of institutions of higher education; or
- (iii) a partnership between—

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

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

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

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

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

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

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

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

(F) other secondary school systemic initiatives that enable grantees to leverage private sector funding for mathematics, science, engineering, and technology scholarships. In awarding grants under this paragraph, the Director shall give priority to agencies that serve high poverty communities.

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

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

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

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

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

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

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

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

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

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

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

(A) will advance understanding of—

(i) the origins and characteristics of planets, the Sun, other stars, the Milky Way Galaxy, and extragalactic objects (such as clusters of galaxies and quasars); and

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

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

SEC. 9. [42 U.S.C. 1862n] MATHEMATICS AND SCIENCE EDUCATION PARTNERSHIPS.

(a) **PROGRAM AUTHORIZED.**—

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

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

(2) PARTNERSHIPS.—(A) In order to be eligible to receive a grant under this subsection, an institution of higher education or eligible nonprofit organization (or consortium of such institutions or organizations) shall enter into a partnership with one or more local educational agencies that may also include a State educational agency or one or more businesses.

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

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

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

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

(C) offering innovative preservice and inservice programs that instruct teachers on using technology more effectively in teaching mathematics and science, including programs that recruit and train undergraduate and graduate students to provide technical support to teachers;

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

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

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

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

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

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

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

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

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

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

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

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

(A) emphasize the training of master teachers who will improve the instruction of mathematics or science in kindergarten through grade 12;

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

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

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

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

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

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

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

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

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

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

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

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

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

(b) SELECTION PROCESS.—

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(A) give priority to applications in which the partnership includes a high-need local educational agency or a high-need local educational agency in which at least one school does not make adequate yearly progress, as determined pursuant to part A of title I of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6311 et seq.); and

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

(c) ACCOUNTABILITY AND DISSEMINATION.—

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

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

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

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

Committee on Health, Education, Labor, and Pensions of the Senate.

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

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

(4) REPORT ON COORDINATION.—The Director, in consultation with the Secretary of Education, shall provide an annual report to the Committee on Science of the House of Representatives, the Committee on Education and the Workforce of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate describing how the program authorized under this section has been and will be coordinated with the program authorized under part B of title II of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6601 et seq.). The report under this paragraph shall be submitted along with the President's annual budget request.

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

(A) a quality application for a grant; and

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

SEC. 10. [42 U.S.C. 1862n-1] ROBERT NOYCE SCHOLARSHIP PROGRAM.

(a) SCHOLARSHIP PROGRAM.—

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

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

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

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

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

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

(iii) offering programs to scholarship recipients, both before and after they receive their baccalaureate

degree, to enable the recipients to become better mathematics and science teachers, to fulfill the service requirements of this section, and to exchange ideas with others in their fields; or

(B) to develop and implement a program to encourage science, mathematics, or engineering professionals to become mathematics and science teachers, through—

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

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

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

(b) SELECTION PROCESS.—

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

(A) a description of the scholarship or stipend program that the applicant intends to operate, including the number of scholarships or the size and number of stipends the applicant intends to award, and the selection process that will be used in awarding the scholarships or stipends;

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

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

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

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

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

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

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

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

(c) SCHOLARSHIP REQUIREMENTS.—

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

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

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

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

(3) **AMOUNT.**—The Director shall establish for each year the amount to be awarded for scholarships under this section for that year, which shall be not less than \$7,500 per year, except that no individual shall receive for any year more than the cost of attendance at that individual's institution. Individuals may receive a maximum of 2 years of scholarship support.

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

(d) **STIPENDS.**—

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

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

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

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

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

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

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

(3) establishing that any scholarship recipient shall be liable to the United States for any amount that is required to be repaid in accordance with the provisions of subsection (g).

(f) **COLLECTION FOR NONCOMPLIANCE.**—

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

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

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

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

(g) **FAILURE TO COMPLETE SERVICE OBLIGATION.**—

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

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

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

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

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

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

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

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

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

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

multiplied by 2.

(B) If a circumstance described in paragraph (1)(D) or (E) occurs after the completion of one year of a service obligation under this section, the United States shall be entitled to recover from the individual, within one year after the date of the occurrence of such circumstance, an amount equal to the total amount of awards received by such individual under this section minus $\frac{1}{2}$ of the amount of the award received per year for

each full year of service completed, plus the interest on such amounts which would be payable if at the time the amounts were received they were loans bearing interest at the maximum legal prevailing rate, as determined by the Treasurer of the United States.

(3) EXCEPTIONS.—The Director may provide for the partial or total waiver or suspension of any service or payment obligation by an individual under this section whenever compliance by the individual with the obligation is impossible or would involve extreme hardship to the individual, or if enforcement of such obligation with respect to the individual would be unconscionable.

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

(i) DEFINITIONS.—In this section—

(1) the term “cost of attendance” has the meaning given such term in section 472 of the Higher Education Act of 1965 (20 U.S.C. 108711);

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

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

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

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

SEC. 11. [42 U.S.C. 1862n-2] ESTABLISHMENT OF CENTERS FOR RESEARCH ON MATHEMATICS AND SCIENCE LEARNING AND EDUCATION IMPROVEMENT.

(a) ESTABLISHMENT.—

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

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

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

(3) FOCUS.—(A) Each Center shall be focused on a different challenge faced by elementary school or secondary school teachers of mathematics and science. In determining the research focus of the Centers, the Director shall consult with the National Academy of Sciences and the Secretary of Education and take into account the extent to which other Federal programs support research on similar questions.

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

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

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

(b) SELECTION PROCESS.—

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

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

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

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

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

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

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

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

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

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

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

(3) AWARDS.—The Director shall ensure, to the extent practicable, that the Centers funded under this section conduct

research and develop educational practices designed to improve the educational performance of a broad range of students, including individuals identified in section 33 or 34 of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885a or 1885b).

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

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

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

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

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

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

SEC. 12. [42 U.S.C. 1862n-3] DUPLICATION OF PROGRAMS.

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

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

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

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

(c) REPORT.—

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

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

SEC. 13. [42 U.S.C. 1862b note] MAJOR RESEARCH INSTRUMENTATION.

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

on Commerce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate. The report shall include—

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

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

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

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

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

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

SEC. 14. [42 U.S.C. 1862n-4] MAJOR RESEARCH EQUIPMENT AND FACILITIES CONSTRUCTION PLAN.

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

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

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

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

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

(2) ANNUAL REPORT.—Not later than 90 days after the date of enactment of this Act, and not later than each June 15 thereafter, the Director shall transmit to the Committee on Science of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate a report containing—

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

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

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

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

(A) scientific merit;

(B) broad societal need and probable impact;

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

(D) readiness of plans for construction and operation;

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

(F) international and interagency commitments; and

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

(b) FACILITIES PLAN.—

[Subsection (b) of this section provides for amendments to the National Science Foundation Authorization Act of 1998 (42 U.S.C. 1862l(a)(1)).]

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

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

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

(2) REPORT.—Not later than September 15 of each fiscal year, the Board shall report to the Committee on Commerce, Science, and Transportation of the Senate, the Committee on Health, Education, Labor, and Pensions of the Senate, and the Committee on Science of the House of Representatives on the conditions of any delegation of authority under section 4 of the National Science Foundation Act of 1950 (42 U.S.C. 1863) that relates to funds appropriated for any project in the major research equipment and facilities construction account.

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

(1) STUDY.—Not later than 3 months after the date of enactment of this Act, the Director shall enter into an arrangement with the National Academy of Sciences to perform a

study on setting priorities for a diverse array of disciplinary and interdisciplinary Foundation-sponsored large research facility projects.

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

SEC. 15. [42 U.S.C. 1862n-5] ADMINISTRATIVE AMENDMENTS.

(a) BOARD MEETINGS.—

(1) IN GENERAL.—[Subsection (a)(1) of this section provides for an amendment to section 4(e) of the National Science Foundation Act of 1950 (42 U.S.C. 1863(e)), which is shown in its entirety elsewhere in this compilation.]

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

(3) COMPLIANCE AUDIT.—The Inspector General of the Foundation shall conduct an annual audit of the compliance by the Board with the requirements described in paragraph (2). The audit shall examine the proposed and actual content of closed meetings and determine whether the closure of the meetings was consistent with section 552b of title 5, United States Code.

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

(b) CONFIDENTIALITY OF CERTAIN INFORMATION.—[Subsection (b) of this section provides for an amendment to section 14(i) of the National Science Foundation Act of 1950 (42 U.S.C. 1873(i)), which is shown in its entirety elsewhere in this compilation.]

(c) APPOINTMENT.—[Subsection (c) of this section provides for an amendment to section 4(g) of the National Science Foundation Act of 1950 (42 U.S.C. 1863(g)), which is shown in its entirety elsewhere in this compilation.]

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

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

[Section 16 provides for amendments to section 32 of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885).]

SEC. 17. [42 U.S.C. 1862n-6] UNDERGRADUATE EDUCATION REFORM.

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

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

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

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

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

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

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

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

(7) implementation of technology-driven reform efforts, including the installation of technology to facilitate such reform, that directly impact undergraduate science, mathematics, engineering, or technology instruction or research experiences.

(c) **SELECTION PROCESS.**—

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

(A) a description of the proposed reform effort;

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

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

(D) evidence of institutional support for, and commitment to, the proposed reform effort, including a description of existing or planned institutional policies and practices regarding faculty hiring, promotion, tenure, and teaching assignment that reward faculty contributions to undergraduate education equal to, or greater than, scholarly scientific research.

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

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

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

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

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

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

SEC. 18. [42 U.S.C. 1862n-7] REPORTS.

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

(b) FACULTY.—Not later than 3 months after the date of enactment of this Act, the Director shall enter into an arrangement with the National Academy of Sciences to assess gender differences in the careers of science and engineering faculty. This study shall build on the Academy's work on gender differences in the careers of doctoral scientists and engineers and examine issues such as faculty hiring, promotion, tenure, and allocation of resources including laboratory space. Upon completion, the results of this study shall be transmitted to the Committee on Science of the House of Representatives, the Committee on Commerce, Science, and Transpor-

tation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate.

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

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

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

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

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

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

(B) identify how the provision of high-speed, large bandwidth capacity access to the Internet to such schools and libraries can be effectively utilized within each school and library;

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

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

(e) MINORITY-SERVING INSTITUTION FUNDING.—

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

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

(B) for the preceding 10 years.

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

SEC. 19. [42 U.S.C. 1862n-8] EVALUATIONS.

(a) EDUCATION.—

(1) IN GENERAL.—The Director, through the Research, Evaluation and Communication Division of the Education and Human Resources Directorate of the Foundation, shall evaluate the effectiveness of all undergraduate science, mathematics, engineering, or technology education activities supported by the Foundation in increasing the number and quality of students, including individuals identified in section 33 or 34 of the Science and Engineering Equal Opportunities Act (42 U.S.C. 1885a or 1885b) studying toward and completing associate's or baccalaureate degrees in science, mathematics, engineering, and technology. In conducting the evaluation, the Director shall consider information on—

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

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

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

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

(2) ASSESSMENT BENCHMARKS AND TOOLS.—The Director, through the Research, Evaluation and Communication Division of the Education and Human Resources Directorate of the Foundation, shall establish a common set of assessment benchmarks and tools, and shall enable every Foundation-sponsored project to incorporate the use of these benchmarks and tools in their project-based assessment activities.

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

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

(c) DISSEMINATION.—The Director shall—

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

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

SEC. 20. [42 U.S.C. 1885c note] REPORT BY COMMITTEE ON EQUAL OPPORTUNITIES IN SCIENCE AND ENGINEERING.

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

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

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

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

SEC. 21. ADVANCED TECHNOLOGICAL EDUCATION PROGRAM.

(a) CORE SCIENCE AND MATHEMATICS COURSES.—[Subsection (a) of this section provides for amendments to section 3(a) of the Scientific and Advanced-Technology Act of 1992 (42 U.S.C. 1862i(a)).]

(b) ARTICULATION PARTNERSHIPS.—[Subsection (b) of this section provides for amendments to section 3(c)(1)(B) of the Scientific and Advanced-Technology Act of 1992 (42 U.S.C. 1862i(c)(1)(B)).]

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

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

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

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

SEC. 22. [42 U.S.C. 1862n note] REPORT ON FOUNDATION BUDGETARY AND PROGRAMMATIC EXPANSION.

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

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

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

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

(4) an estimate of the national scientific and technological research infrastructure needed to adequately support the Foundation's increased funding and additional programs; and

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

SEC. 23. [42 U.S.C. 1862n-9] ASTRONOMY AND ASTROPHYSICS ADVISORY COMMITTEE.

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

(b) **DUTIES.**—The Advisory Committee shall—

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

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

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

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

(1) 5 members selected by the Director;

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

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

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

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

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

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

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

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

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

SEC. 24. [42 U.S.C. 1862n-10] MINORITY-SERVING INSTITUTIONS UNDERGRADUATE PROGRAM.

(a) IN GENERAL.—The Director is authorized to establish a new program to award grants on a competitive, merit-reviewed basis to Hispanic-serving institutions, Alaska Native-serving institutions, Native Hawaiian-serving institutions, and other institutions of higher education serving a substantial number of minority students to enhance the quality of undergraduate science, mathematics, and engineering education at such institutions and to increase the retention and graduation rates of students pursuing associate's or baccalaureate degrees in science, mathematics, engineering, or technology.

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

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

(2) faculty development;

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

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

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

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

SEC. 25. [42 U.S.C. 1864 note] STUDY ON RESEARCH AND DEVELOPMENT FUNDING DATA DISCREPANCIES.

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

(b) **CONTENTS.**—The study shall—

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

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

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

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

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

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

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

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

(E) overcome systemic shortfalls; and

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

(c) **SUBMISSION.**—The Director shall submit a report on the results of the study to the Committee on Science of the House of Representatives, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Health, Education, Labor, and Pensions of the Senate within one year after the date of enactment of this Act.

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

SEC. 26. [42 U.S.C. 1862g note] PLANNING GRANTS.

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

gram to Stimulate Competitive Research or any other appropriate program.