

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 13451(e) of this title and for renewable applications from section 13471(c) of this title, including Department of Energy national laboratory participation in proposals submitted under subsection (c), and including transferring funds to the General Services Administration.

(Pub. L. 102-486, title XXII, §2201, Oct. 24, 1992, 106 Stat. 3085.)

TERMINATION OF REPORTING REQUIREMENTS

For termination, effective May 15, 2000, of provisions in subsec. (b) of this section relating to the biennial re-submittal of the program plan to Congress, see section 3003 of Pub. L. 104-66, as amended, set out as a note under section 1113 of Title 31, Money and Finance, and the 1st item on page 86 of House Document No. 103-7.

**§ 13502. National Advanced Manufacturing Technologies Program**

**(a) Program direction**

The Secretary shall establish a 5-year National Advanced Manufacturing Technologies Program, in accordance with sections 13541 and 13542 of this title. 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<sup>1</sup> shall include field demonstrations of sufficient scale and number to prove technical and economic feasibility.

**(b) Program plan**

Within 180 days after October 24, 1992, 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 October 24, 1992, 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 13451(e) of this title, including Department of Energy national laboratory participation in proposals submitted under subsection (c).

(Pub. L. 102-486, title XXII, §2202, Oct. 24, 1992, 106 Stat. 3086.)

TERMINATION OF REPORTING REQUIREMENTS

For termination, effective May 15, 2000, of provisions in subsec. (b) of this section relating to the biennial re-submittal of the program plan to Congress, see section 3003 of Pub. L. 104-66, as amended, set out as a note under section 1113 of Title 31, Money and Finance, and the 2nd item on page 86 of House Document No. 103-7.

**§ 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 materials, 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

<sup>1</sup> So in original. Probably should be capitalized.

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 October 24, 1992, 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 13542 of this title 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 October 24, 1992, 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) ESTABLISHED PROGRAM TO STIMULATE COMPETITIVE RESEARCH.—

(A) DEFINITIONS.—In this paragraph:

(i) ELIGIBLE JURISDICTION.—The term “eligible jurisdiction” means a State that is determined to be eligible for a grant under this paragraph in accordance with subparagraph (D).

(ii) EPSCoR.—The term “EPSCoR” means the Established Program to Stimulate Competitive Research operated under subparagraph (B).

(iii) NATIONAL LABORATORY.—The term “National Laboratory” has the meaning given the term in section 15801 of this title.

(iv) STATE.—The term “State” means—

- (I) a State;
- (II) the District of Columbia;
- (III) the Commonwealth of Puerto Rico;
- (IV) Guam; and
- (V) the United States Virgin Islands.

(B) PROGRAM OPERATION.—The Secretary shall operate an Established Program to Stimulate Competitive Research.

(C) OBJECTIVES.—The objectives of EPSCoR shall be—

(i) to increase the number of researchers in eligible jurisdictions, especially at institutions of higher education, capable of performing nationally competitive science and engineering research in support of the mission of the Department of Energy in the areas of applied energy research, environmental management, and basic science;

(ii) to improve science and engineering research and education programs at institutions of higher education in eligible jurisdictions and enhance the capabilities of eligible jurisdictions to develop, plan, and execute research that is competitive, including through investing in research equipment and instrumentation; and

(iii) to increase the probability of long-term growth of competitive funding to eligible jurisdictions.

(D) ELIGIBLE JURISDICTIONS.—

(i) IN GENERAL.—The Secretary may establish criteria for determining whether a State is eligible for a grant under this paragraph.

(ii) REQUIREMENT.—Except as provided in clause (iii), in establishing criteria under clause (i), the Secretary shall ensure that a State is eligible for a grant under this paragraph if the State, as determined by the Secretary, is a State that—

(I) historically has received relatively little Federal research and development funding; and

(II) has demonstrated a commitment—

(aa) to develop the research bases in the State; and

(bb) to improve science and engineering research and education programs at institutions of higher education in the State.

(iii) ELIGIBILITY UNDER NSF EPSCoR.—At the election of the Secretary, or if the Secretary declines to establish criteria under clause (i), the Secretary may continue to use the eligibility criteria in use on January 1, 2021, or any successor criteria.

(E) GRANTS IN AREAS OF APPLIED ENERGY RESEARCH, ENVIRONMENTAL MANAGEMENT, AND BASIC SCIENCE.—

(i) IN GENERAL.—EPSCoR shall make grants to eligible jurisdictions to carry out and support applied energy research and research in all areas of environmental management and basic science sponsored by the Department of Energy, including—

(I) energy efficiency, fossil energy, renewable energy, and other applied energy research;

(II) electricity delivery research;

(III) cybersecurity, energy security, and emergency response;

(IV) environmental management; and

(V) basic science research.

(ii) ACTIVITIES.—EPSCoR shall make grants under this subparagraph for activities

consistent with the objectives described in subparagraph (C) in the areas of applied energy research, environmental management, and basic science described in clause (i), including—

(I) to support research that is carried out in partnership with the National Laboratories;

(II) to provide for graduate traineeships;

(III) to support research by early career faculty; and

(IV) to improve research capabilities through biennial research implementation grants.

(iii) **NO COST SHARING.**—EPSCoR shall not impose any cost-sharing requirement with respect to a grant made under this subparagraph, but may require letters of commitment from National Laboratories.

(F) **OTHER ACTIVITIES.**—EPSCoR may carry out such activities as may be necessary to meet the objectives described in subparagraph (C) in the areas of applied energy research, environmental management, and basic science described in subparagraph (E)(i).

(G) **PROGRAM IMPLEMENTATION.**—

(i) **IN GENERAL.**—Not later than 270 days after January 1, 2021, the Secretary shall submit to the Committees on Energy and Natural Resources and Appropriations of the Senate and the Committees on Energy and Commerce and Appropriations of the House of Representatives a plan describing how the Secretary shall implement EPSCoR.

(ii) **CONTENTS OF PLAN.**—The plan described in clause (i) shall include a description of—

(I) the management structure of EPSCoR, which shall ensure that all research areas and activities described in this paragraph are incorporated into EPSCoR;

(II) efforts to conduct outreach to inform eligible jurisdictions and faculty of changes to, and opportunities under, EPSCoR;

(III) how EPSCoR plans to increase engagement with eligible jurisdictions, faculty, and State committees, including by holding regular workshops, to increase participation in EPSCoR; and

(IV) any other issues relating to EPSCoR that the Secretary determines appropriate.

(H) **PROGRAM EVALUATION.**—

(i) **IN GENERAL.**—Not later than 5 years after January 1, 2021, the Secretary shall contract with a federally funded research and development center, the National Academy of Sciences, or a similar organization to carry out an assessment of the effectiveness of EPSCoR, including an assessment of—

(I) the tangible progress made towards achieving the objectives described in subparagraph (C);

(II) the impact of research supported by EPSCoR on the mission of the Department of Energy; and

(III) any other issues relating to EPSCoR that the Secretary determines appropriate.

(ii) **LIMITATION.**—The organization with which the Secretary contracts under clause (i) shall not be a National Laboratory.

(iii) **REPORT.**—Not later than 6 years after January 1, 2021, the Secretary shall submit to the Committee on Energy and Natural Resources and the Committee on Appropriations of the Senate and the Committee on Science, Space and Technology and the Committee on Appropriations of the House of Representatives a report describing the results of the assessment carried out under clause (i), including recommendations for improvements that would enable the Secretary to achieve the objectives described in subparagraph (C).

**(c) Technology transfer**

The Secretary shall support technology transfer activities conducted by the National Laboratories. Within 1 year after October 24, 1992, 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 October 24, 1992, 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.

(Pub. L. 102-486, title XXII, §2203, Oct. 24, 1992, 106 Stat. 3087; Pub. L. 105-245, title III, §309(b)(2)(F), Oct. 7, 1998, 112 Stat. 1853; Pub. L. 116-260, div. Z, title IX, §9011, Dec. 27, 2020, 134 Stat. 2606; Pub. L. 116-283, div. H, title XCIV, §9411, Jan. 1, 2021, 134 Stat. 4815.)

AMENDMENTS

2021—Subsec. (b)(3). Pub. L. 116-283 added par. (3) identical to the par. (3) appearing in the amendment by Pub. L. 116-260. See 2020 Amendment note below.

2020—Subsec. (b)(3). Pub. L. 116-260 added par. (3) and struck out former par. (3) which related to the operation of an Experimental Program to Stimulate Competitive Research (EPSCoR).

1998—Subsec. (b)(3)(A)(i). Pub. L. 105-245 substituted “Office of Science” for “Office of Energy Research”.

**§ 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 1070d through 1070d-1d of title 20.<sup>1</sup>

**(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 1070d of title 20<sup>1</sup> 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) “Qualified entity” defined**

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 of appropriations**

There are authorized to be appropriated such sums as may be necessary, to be derived from section 13503(e) of this title and the Environmental Restoration and Waste Management program, to carry out the purposes of this section. (Pub. L. 102-486, title XXII, §2204, Oct. 24, 1992, 106 Stat. 3089.)

REFERENCES IN TEXT

Sections 1070d through 1070d-1d of title 20, referred to in subsec. (a), and section 1070d of title 20, referred to

<sup>1</sup> See References in Text note below.