

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; Pub. L. 117-167, div. B, title I, §10113(a)-(e), (g), Aug. 9, 2022, 136 Stat. 1464-1468.)

**Editorial Notes**

AMENDMENTS

2022—Subsec. (b)(1), (2). Pub. L. 117-167, §10113(g), inserted headings.

Subsec. (b)(3)(E). Pub. L. 117-167, §10113(a)(1), struck out “in areas of applied energy research, environmental management, and basic science” after “Grants” in heading.

Subsec. (b)(3)(E)(i)(I). Pub. L. 117-167, §10113(a)(2)(A), inserted “nuclear energy,” before “and”.

Subsec. (b)(3)(E)(i)(V). Pub. L. 117-167, §10113(a)(2)(B), added subcl. (V) and struck out former subcl. (V) which read as follows: “basic science research.”

Subsec. (b)(3)(E)(ii)(II). Pub. L. 117-167, §10113(a)(3)(A), substituted “undergraduate scholarships, graduate fellowships, and” for “graduate”.

Subsec. (b)(3)(E)(ii)(III). Pub. L. 117-167, §10113(a)(3)(B), substituted “and staff;” for “; and”.

Subsec. (b)(3)(E)(ii)(IV). Pub. L. 117-167, §10113(a)(3)(C), substituted “annual” for “biennial” and semicolon for period at end.

Subsec. (b)(3)(E)(ii)(V), (VI). Pub. L. 117-167, §10113(a)(3)(D), added subcls. (V) and (VI).

Subsec. (b)(3)(F). Pub. L. 117-167, §10113(b), added subpar. (F) and struck out former subpar. (F). Prior to amendment, text read as follows: “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).”

Subsec. (b)(3)(G)(iii). Pub. L. 117-167, §10113(c), added cl. (iii).

Subsec. (b)(3)(H)(iv). Pub. L. 117-167, §10113(d), added cl. (iv).

Subsec. (b)(3)(I). Pub. L. 117-167, §10113(e), added subpar. (I).

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—

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

(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.)

**Editorial Notes**

REFERENCES IN TEXT

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

in subsec. (b)(1), were repealed by Pub. L. 102-325, title IV, §402(a)(1), July 23, 1992, 106 Stat. 482.

**§ 13505. Integration of research and development**

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 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.

(Pub. L. 102-486, title XXII, §2205, Oct. 24, 1992, 106 Stat. 3091.)

**§ 13506. Definitions**

For purposes of this subchapter—

(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 super-