

dence of the eligibility of the loan for the guarantee with respect to principal and interest. The validity of the guarantee shall be incontestable in the hands of a holder of the guaranteed loan.

(j) Reports

Until each guaranteed loan under this section has been repaid in full, the Secretary shall annually submit to Congress a report on the activities of the Secretary under this section.

(k) Authorization of appropriations

There are authorized to be appropriated such sums as are necessary to carry out this section.

(l) Termination of authority

The authority of the Secretary to issue a loan guarantee under subsection (b) terminates on the date that is 10 years after August 8, 2005.

(Pub. L. 109-58, title XV, §1510, Aug. 8, 2005, 119 Stat. 1085.)

§ 16502. Advanced Biofuel Technologies Program

(a) In general

Subject to the availability of appropriations under subsection (d), the Administrator of the Environmental Protection Agency shall, in consultation with the Secretary of Agriculture and the Biomass Research and Development Technical Advisory Committee established under section 8605 of title 7, establish a program, to be known as the “Advanced Biofuel Technologies Program”, to demonstrate advanced technologies for the production of alternative transportation fuels.

(b) Priority

In carrying out the program under subsection (a), the Administrator shall give priority to projects that enhance the geographical diversity of alternative fuels production and utilize feedstocks that represent 10 percent or less of ethanol or biodiesel fuel production in the United States during the previous fiscal year.

(c) Demonstration projects

(1) In general

As part of the program under subsection (a), the Administrator shall fund demonstration projects—

(A) to develop not less than 4 different conversion technologies for producing cellulosic biomass ethanol; and

(B) to develop not less than 5 technologies for coproducing value-added bioproducts (such as fertilizers, herbicides, and pesticides) resulting from the production of biodiesel fuel.

(2) Administration

Demonstration projects under this subsection shall be—

(A) conducted based on a merit-reviewed, competitive process; and

(B) subject to the cost-sharing requirements of section 16352 of this title.

(d) Authorization of appropriations

There are authorized to be appropriated to carry out this section \$110,000,000 for each of fiscal years 2005 through 2009.

(Pub. L. 109-58, title XV, §1514, Aug. 8, 2005, 119 Stat. 1090.)

§ 16503. Sugar ethanol loan guarantee program

(a) In general

Funds may be provided for the cost (as defined in section 661a of title 2) of loan guarantees issued under title XIV¹ to carry out commercial demonstration projects for ethanol derived from sugarcane, bagasse, and other sugarcane byproducts.

(b) Demonstration projects

The Secretary may issue loan guarantees under this section to projects to demonstrate commercially the feasibility and viability of producing ethanol using sugarcane, sugarcane bagasse, and other sugarcane byproducts as a feedstock.

(c) Requirements

An applicant for a loan guarantee under this section may provide assurances, satisfactory to the Secretary, that—

(1) the project design has been validated through the operation of a continuous process facility;

(2) the project has been subject to a full technical review;

(3) the project, with the loan guarantee, is economically viable; and

(4) there is a reasonable assurance of repayment of the guaranteed loan.

(d) Limitations

(1) Maximum guarantee

Except as provided in paragraph (2), a loan guarantee under this section—

(A) may be issued for up to 80 percent of the estimated cost of a project; but

(B) shall not exceed \$50,000,000 for any 1 project.

(2) Additional guarantees

(A) In general

The Secretary may issue additional loan guarantees for a project to cover—

(i) up to 80 percent of the excess of actual project costs; but

(ii) not to exceed 15 percent of the amount of the original loan guarantee.

(B) Principal and interest

Subject to subparagraph (A), the Secretary shall guarantee 100 percent of the principal and interest of a loan guarantee made under subparagraph (A).

(Pub. L. 109-58, title XV, §1516, Aug. 8, 2005, 119 Stat. 1091.)

REFERENCES IN TEXT

Title XIV, referred to in subsec. (a), is title XIV of Pub. L. 109-58, Aug. 8, 2005, 119 Stat. 1061, which enacted subchapter XIII of this chapter and section 13557 of this title.

SUBCHAPTER XV—INCENTIVES FOR INNOVATIVE TECHNOLOGIES

§ 16511. Definitions

In this subchapter:

¹ See References in Text note below.

(1) Commercial technology**(A) In general**

The term “commercial technology” means a technology in general use in the commercial marketplace.

(B) Inclusions

The term “commercial technology” does not include a technology solely by use of the technology in a demonstration project funded by the Department.

(2) Cost

The term “cost” has the meaning given the term “cost of a loan guarantee” within the meaning of section 661a(5)(C) of title 2.

(3) Eligible project

The term “eligible project” means a project described in section 16513 of this title.

(4) Guarantee**(A) In general**

The term “guarantee” has the meaning given the term “loan guarantee” in section 661a of title 2.

(B) Inclusion

The term “guarantee” includes a loan guarantee commitment (as defined in section 661a of title 2).

(5) Obligation

The term “obligation” means the loan or other debt obligation that is guaranteed under this section.

(Pub. L. 109–58, title XVII, § 1701, Aug. 8, 2005, 119 Stat. 1117.)

§ 16512. Terms and conditions**(a) In general**

Except for division C of Public Law 108–324 [15 U.S.C. 720 et seq.], the Secretary shall make guarantees under this or any other Act for projects on such terms and conditions as the Secretary determines, after consultation with the Secretary of the Treasury, only in accordance with this section.

(b) Specific appropriation or contribution

No guarantee shall be made unless—

(1) an appropriation for the cost has been made; or

(2) the Secretary has received from the borrower a payment in full for the cost of the obligation and deposited the payment into the Treasury.

(c) Amount

Unless otherwise provided by law, a guarantee by the Secretary shall not exceed an amount equal to 80 percent of the project cost of the facility that is the subject of the guarantee, as estimated at the time at which the guarantee is issued.

(d) Repayment**(1) In general**

No guarantee shall be made unless the Secretary determines that there is reasonable prospect of repayment of the principal and interest on the obligation by the borrower.

(2) Amount

No guarantee shall be made unless the Secretary determines that the amount of the obligation (when combined with amounts available to the borrower from other sources) will be sufficient to carry out the project.

(3) Subordination

The obligation shall be subject to the condition that the obligation is not subordinate to other financing.

(e) Interest rate

An obligation shall bear interest at a rate that does not exceed a level that the Secretary determines appropriate, taking into account the prevailing rate of interest in the private sector for similar loans and risks.

(f) Term

The term of an obligation shall require full repayment over a period not to exceed the lesser of—

(1) 30 years; or

(2) 90 percent of the projected useful life of the physical asset to be financed by the obligation (as determined by the Secretary).

(g) Defaults**(1) Payment by Secretary****(A) In general**

If a borrower defaults on the obligation (as defined in regulations promulgated by the Secretary and specified in the guarantee contract), the holder of the guarantee shall have the right to demand payment of the unpaid amount from the Secretary.

(B) Payment required

Within such period as may be specified in the guarantee or related agreements, the Secretary shall pay to the holder of the guarantee the unpaid interest on, and unpaid principal of the obligation as to which the borrower has defaulted, unless the Secretary finds that there was no default by the borrower in the payment of interest or principal or that the default has been remedied.

(C) Forbearance

Nothing in this subsection precludes any forbearance by the holder of the obligation for the benefit of the borrower which may be agreed upon by the parties to the obligation and approved by the Secretary.

(2) Subrogation**(A) In general**

If the Secretary makes a payment under paragraph (1), the Secretary shall be subrogated to the rights of the recipient of the payment as specified in the guarantee or related agreements including, where appropriate, the authority (notwithstanding any other provision of law) to—

(i) complete, maintain, operate, lease, or otherwise dispose of any property acquired pursuant to such guarantee or related agreements; or

(ii) permit the borrower, pursuant to an agreement with the Secretary, to continue to pursue the purposes of the project if the

Secretary determines this to be in the public interest.

(B) Superiority of rights

The rights of the Secretary, with respect to any property acquired pursuant to a guarantee or related agreements, shall be superior to the rights of any other person with respect to the property.

(C) Terms and conditions

A guarantee agreement shall include such detailed terms and conditions as the Secretary determines appropriate to—

- (i) protect the interests of the United States in the case of default; and
- (ii) have available all the patents and technology necessary for any person selected, including the Secretary, to complete and operate the project.

(3) Payment of principal and interest by Secretary

With respect to any obligation guaranteed under this section, the Secretary may enter into a contract to pay, and pay, holders of the obligation, for and on behalf of the borrower, from funds appropriated for that purpose, the principal and interest payments which become due and payable on the unpaid balance of the obligation if the Secretary finds that—

- (A)(i) the borrower is unable to meet the payments and is not in default;
- (ii) it is in the public interest to permit the borrower to continue to pursue the purposes of the project; and
- (iii) the probable net benefit to the Federal Government in paying the principal and interest will be greater than that which would result in the event of a default;

(B) the amount of the payment that the Secretary is authorized to pay shall be no greater than the amount of principal and interest that the borrower is obligated to pay under the agreement being guaranteed; and

(C) the borrower agrees to reimburse the Secretary for the payment (including interest) on terms and conditions that are satisfactory to the Secretary.

(4) Action by Attorney General

(A) Notification

If the borrower defaults on an obligation, the Secretary shall notify the Attorney General of the default.

(B) Recovery

On notification, the Attorney General shall take such action as is appropriate to recover the unpaid principal and interest due from—

- (i) such assets of the defaulting borrower as are associated with the obligation; or
- (ii) any other security pledged to secure the obligation.

(h) Fees

(1) In general

The Secretary shall charge and collect fees for guarantees in amounts the Secretary determines are sufficient to cover applicable administrative expenses.

(2) Availability

Fees collected under this subsection shall—

(A) be deposited by the Secretary into the Treasury; and

(B) remain available until expended, subject to such other conditions as are contained in annual appropriations Acts.

(i) Records; audits

(1) In general

A recipient of a guarantee shall keep such records and other pertinent documents as the Secretary shall prescribe by regulation, including such records as the Secretary may require to facilitate an effective audit.

(2) Access

The Secretary and the Comptroller General of the United States, or their duly authorized representatives, shall have access, for the purpose of audit, to the records and other pertinent documents.

(j) Full faith and credit

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.

(Pub. L. 109–58, title XVII, § 1702, Aug. 8, 2005, 119 Stat. 1117.)

REFERENCES IN TEXT

Division C of Public Law 108–324, referred to in subsec. (a), is division C of Pub. L. 108–324, Oct. 13, 2004, 118 Stat. 1255, as amended, known as the Alaska Natural Gas Pipeline Act, which is classified principally to chapter 15D (§720 et seq.) of Title 15, Commerce and Trade. For complete classification of division C to the Code, see Short Title note set out under section 720 of Title 15 and Tables.

§ 16513. Eligible projects

(a) In general

The Secretary may make guarantees under this section only for projects that—

- (1) avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases; and
- (2) employ new or significantly improved technologies as compared to commercial technologies in service in the United States at the time the guarantee is issued.

(b) Categories

Projects from the following categories shall be eligible for a guarantee under this section:

- (1) Renewable energy systems.
- (2) Advanced fossil energy technology (including coal gasification meeting the criteria in subsection (d)).
- (3) Hydrogen fuel cell technology for residential, industrial, or transportation applications.
- (4) Advanced nuclear energy facilities.
- (5) Carbon capture and sequestration practices and technologies, including agricultural and forestry practices that store and sequester carbon.
- (6) Efficient electrical generation, transmission, and distribution technologies.
- (7) Efficient end-use energy technologies.

(8) Production facilities for the manufacture of fuel efficient vehicles or parts of those vehicles, including electric drive vehicles and advanced diesel vehicles.

(9) Pollution control equipment.

(10) Refineries, meaning facilities at which crude oil is refined into gasoline.

(c) Gasification projects

The Secretary may make guarantees for the following gasification projects:

(1) Integrated gasification combined cycle projects

Integrated gasification combined cycle plants meeting the emission levels under subsection (d), including—

(A) projects for the generation of electricity—

(i) for which, during the term of the guarantee—

(I) coal, biomass, petroleum coke, or a combination of coal, biomass, and petroleum coke will account for at least 65 percent of annual heat input; and

(II) electricity will account for at least 65 percent of net useful annual energy output;

(ii) that have a design that is determined by the Secretary to be capable of accommodating the equipment likely to be necessary to capture the carbon dioxide that would otherwise be emitted in flue gas from the plant;

(iii) that have an assured revenue stream that covers project capital and operating costs (including servicing all debt obligations covered by the guarantee) that is approved by the Secretary and the relevant State public utility commission; and

(iv) on which construction commences not later than the date that is 3 years after the date of the issuance of the guarantee;

(B) a project to produce energy from coal (of not more than 13,000 Btu/lb and mined in the western United States) using appropriate advanced integrated gasification combined cycle technology that minimizes and offers the potential to sequester carbon dioxide emissions and that—

(i) may include repowering of existing facilities;

(ii) may be built in stages;

(iii) shall have a combined output of at least 100 megawatts;

(iv) shall be located in a western State at an altitude greater than 4,000 feet; and

(v) shall demonstrate the ability to use coal with an energy content of not more than 9,000 Btu/lb;

(C) a project located in a taconite-producing region of the United States that is entitled under the law of the State in which the plant is located to enter into a long-term contract approved by a State public utility commission to sell at least 450 megawatts of output to a utility;

(D) facilities that—

(i) generate one or more hydrogen-rich and carbon monoxide-rich product streams

from the gasification of coal or coal waste; and

(ii) use those streams to facilitate the production of ultra clean premium fuels through the Fischer-Tropsch process; and

(E) a project to produce energy and clean fuels, using appropriate coal liquefaction technology, from Western bituminous or subbituminous coal, that—

(i) is owned by a State government; and

(ii) may include tribal and private coal resources.

(2) Industrial gasification projects

Facilities that gasify coal, biomass, or petroleum coke in any combination to produce synthesis gas for use as a fuel or feedstock and for which electricity accounts for less than 65 percent of the useful energy output of the facility.

(3) Petroleum coke gasification projects

The Secretary is encouraged to make loan guarantees under this subchapter available for petroleum coke gasification projects.

(4) Liquefaction project

Notwithstanding any other provision of law, funds awarded under the Department of Energy's Clean Coal Power Initiative for Fischer-Tropsch coal-to-oil liquefaction projects may be used to finance the cost of loan guarantees for projects awarded such funds.

(d) Emission levels

In addition to any other applicable Federal or State emission limitation requirements, a project shall attain at least—

(1) total sulfur dioxide emissions in flue gas from the project that do not exceed 0.05 lb/MMBtu;

(2) a 90-percent removal rate (including any fuel pretreatment) of mercury from the coal-derived gas, and any other fuel, combusted by the project;

(3) total nitrogen oxide emissions in the flue gas from the project that do not exceed 0.08 lb/MMBtu; and

(4) total particulate emissions in the flue gas from the project that do not exceed 0.01 lb/MMBtu.

(e) Qualification of facilities receiving tax credits

A project that receives tax credits for clean coal technology shall not be disqualified from receiving a guarantee under this subchapter.

(Pub. L. 109-58, title XVII, §1703, Aug. 8, 2005, 119 Stat. 1120; Pub. L. 109-168, §1(b)(1), Jan. 10, 2006, 119 Stat. 3580; Pub. L. 110-140, title I, §134(b), Dec. 19, 2007, 121 Stat. 1513.)

AMENDMENTS

2007—Subsec. (b)(8). Pub. L. 110-140 added par. (8) and struck out former par. (8) which read as follows: "Production facilities for fuel efficient vehicles, including hybrid and advanced diesel vehicles."

2006—Subsec. (c)(4). Pub. L. 109-168 substituted "Department of Energy's Clean Coal Power Initiative for Fischer-Tropsch" for "clean coal power initiative under part A of subchapter IV for".

EFFECTIVE DATE OF 2007 AMENDMENT

Amendment by Pub. L. 110-140 effective on the date that is 1 day after Dec. 19, 2007, see section 1601 of Pub.

L. 110-140, set out as an Effective Date note under section 1824 of Title 2, The Congress.

§ 16514. Authorization of appropriations

(a) In general

There are authorized to be appropriated such sums as are necessary to provide the cost of guarantees under this subchapter.

(b) Use of other appropriated funds

The Department may use amounts awarded under the Clean Coal Power Initiative to carry out the project described in section 16513(c)(1)(C) of this title, on the request of the recipient of such award, for a loan guarantee, to the extent that the amounts have not yet been disbursed to, or have been repaid by, the recipient.

(Pub. L. 109-58, title XVII, § 1704, Aug. 8, 2005, 119 Stat. 1122; Pub. L. 109-168, § 1(b)(2), Jan. 10, 2006, 119 Stat. 3580.)

AMENDMENTS

2006—Subsec. (b). Pub. L. 109-168 substituted “Clean Coal Power Initiative” for “clean coal power initiative under part A of subchapter IV”.

§ 16515. Limitation on commitments to guarantee loans

(a) Notwithstanding section 101,¹ subject to the Federal Credit Reform Act of 1990, as amended [2 U.S.C. 661 et seq.], commitments to guarantee loans under title XVII of the Energy Policy Act of 2005 [42 U.S.C. 16501 et seq.] shall not exceed a total principal amount, any part of which is to be guaranteed, of \$4,000,000,000: *Provided*, That there are appropriated for the cost of the guaranteed loans such sums as are hereafter derived from amounts received from borrowers pursuant to section 16512(b)(2) of this title, to remain available until expended: *Provided further*, That the source of payments received from borrowers for the subsidy cost shall not be a loan or other debt obligation that is made or guaranteed by the Federal government.² In addition, fees collected pursuant to section 16512(h) of this title in fiscal year 2007 shall be credited as offsetting collections to the Departmental Administration account for administrative expenses of the Loan Guarantee Program: *Provided further*, That the sum appropriated for administrative expenses for the Loan Guarantee Program shall be reduced by the amount of fees received during fiscal year 2007: *Provided further*, That any fees collected under section 16512(h) of this title in excess of the amount appropriated for administrative expenses shall not be available until appropriated.

(b) No loan guarantees may be awarded under title XVII of the Energy Policy Act of 2005 [42 U.S.C. 16501 et seq.] until final regulations are issued that include—

- (1) programmatic, technical, and financial factors the Secretary will use to select projects for loan guarantees;
- (2) policies and procedures for selecting and monitoring lenders and loan performance; and
- (3) any other policies, procedures, or information necessary to implement title XVII of the Energy Policy Act of 2005.

(c) The Secretary of Energy shall enter into an arrangement with an independent auditor for annual evaluations of the program under title XVII of the Energy Policy Act of 2005 [42 U.S.C. 16501 et seq.]. In addition to the independent audit, the Comptroller General shall conduct an annual review of the Department’s execution of the program under title XVII of the Energy Policy Act of 2005. The results of the independent audit and the Comptroller General’s review shall be provided directly to the Committees on Appropriations of the House of Representatives and the Senate.

(d) The Secretary of Energy shall promulgate final regulations for loan guarantees under title XVII of the Energy Policy Act of 2005 [42 U.S.C. 16501 et seq.] within 6 months of February 15, 2007.

(e) Not later than 120 days after February 15, 2007, and annually thereafter, the Secretary of Energy shall transmit to the Committees on Appropriations of the House of Representatives and the Senate a report containing a summary of all activities under title XVII of the Energy Policy Act of 2005 [42 U.S.C. 16501 et seq.], beginning in fiscal year 2007, with a listing of responses to loan guarantee solicitations under this subchapter, describing the technologies, amount of loan guarantee sought, and the applicants’ assessment of risk.

(Pub. L. 109-289, div. B, title II, § 20320, as added Pub. L. 110-5, § 2, Feb. 15, 2007, 121 Stat. 21.)

REFERENCES IN TEXT

Section 101, referred to in subsec. (a), is section 101 of title I of div. B of Pub. L. 109-289, as added by Pub. L. 110-5, § 2, Feb. 15, 2007, 121 Stat. 8. Subsec. (b) of section 101 is classified as a note under section 12651i of this title. Subsecs. (a) and (c) of section 101 are not classified to the Code.

The Federal Credit Reform Act of 1990, referred to in subsec. (a), is title V of Pub. L. 93-344, as added by Pub. L. 101-508, title XIII, § 13201(a), Nov. 5, 1990, 104 Stat. 1388-609, which is classified generally to subchapter III (§ 661 et seq.) of chapter 17A of Title 2, The Congress. For complete classification of this Act to the Code, see Short Title note set out under section 621 of Title 2 and Tables.

The Energy Policy Act of 2005, referred to in text, is Pub. L. 109-58, Aug. 8, 2005, 119 Stat. 594. Title XVII of the Act is classified generally to this subchapter. For complete classification of this Act to the Code, see Short Title note set out under section 15801 of this title and Tables.

CODIFICATION

Section was enacted as part of the Continuing Appropriations Resolution, 2007, and not as part of the Energy Policy Act of 2005 which comprises this chapter.

SUBCHAPTER XVI—STUDIES

§ 16521. Report on energy integration with Latin America

The Secretary shall submit an annual report to the Committee on Energy and Commerce of the United States House of Representatives and to the Committee on Energy and Natural Resources of the Senate concerning the status of energy export development in Latin America and efforts by the Secretary and other departments and agencies of the United States to promote energy integration with Latin America.

¹ See References in Text note below.

² So in original. Probably should be capitalized.

The report shall contain a detailed analysis of the status of energy export development in Mexico and a description of all significant efforts by the Secretary and other departments and agencies to promote a constructive relationship with Mexico regarding the development of that nation's energy capacity. In particular this report shall outline efforts the Secretary and other departments and agencies have made to ensure that regulatory approval and oversight of United States/Mexico border projects that result in the expansion of Mexican energy capacity are effectively coordinated across departments and with the Mexican government.

(Pub. L. 109-58, title XVIII, §1807, Aug. 8, 2005, 119 Stat. 1124.)

§ 16522. Low-volume gas reservoir study

(a) Study

The Secretary shall make a grant to an organization of oil and gas producing States, specifically those containing significant numbers of marginal oil and natural gas wells, for conducting an annual study of low-volume natural gas reservoirs. Such organization shall work with the State geologist of each State being studied.

(b) Contents

The studies under this section shall—

- (1) determine the status and location of marginal wells and gas reservoirs;
- (2) gather the production information of these marginal wells and reservoirs;
- (3) estimate the remaining producible reserves based on variable pipeline pressures;
- (4) locate low-pressure gathering facilities and pipelines;
- (5) recommend incentives which will enable the continued production of these resources;
- (6) produce maps and literature to disseminate to States to promote conservation of natural gas reserves; and
- (7) evaluate the amount of natural gas that is being wasted through the practice of venting or flaring of natural gas produced in association with crude oil well production.

(c) Data analysis

Data development and analysis under this section shall be performed by an institution of higher education with GIS capabilities. If the organization receiving the grant under subsection (a) does not have GIS capabilities, such organization shall contract with one or more entities with—

- (1) technological capabilities and resources to perform advanced image processing, GIS programming, and data analysis; and
- (2) the ability to—
 - (A) process remotely sensed imagery with high spatial resolution;
 - (B) deploy global positioning systems;
 - (C) process and synthesize existing, variable-format gas well, pipeline, gathering facility, and reservoir data;
 - (D) create and query GIS databases with infrastructure location and attribute information;
 - (E) write computer programs to customize relevant GIS software;
 - (F) generate maps, charts, and graphs which summarize findings from data re-

search for presentation to different audiences; and

(G) deliver data in a variety of formats, including Internet Map Server for query and display, desktop computer display, and access through handheld personal digital assistants.

(d) Authorization of appropriations

There are authorized to be appropriated to the Secretary for carrying out this section—

- (1) \$1,500,000 for fiscal year 2006; and
- (2) \$450,000 for each of the fiscal years 2007 through 2010.

(e) Definitions

For purposes of this section, the term “GIS” means geographic information systems technology that facilitates the organization and management of data with a geographic component.

(Pub. L. 109-58, title XVIII, §1808, Aug. 8, 2005, 119 Stat. 1124.)

§ 16523. Alaska natural gas pipeline

Not later than 180 days after August 8, 2005, and every 180 days thereafter until the Alaska natural gas pipeline commences operation, the Federal Energy Regulatory Commission shall submit to Congress a report describing—

- (1) the progress made in licensing and constructing the pipeline; and
- (2) any issue impeding that progress.

(Pub. L. 109-58, title XVIII, §1810, Aug. 8, 2005, 119 Stat. 1126.)

§ 16524. Study on the benefits of economic dispatch

(a) Study

The Secretary, in coordination and consultation with the States, shall conduct a study on—

- (1) the procedures currently used by electric utilities to perform economic dispatch;
- (2) identifying possible revisions to those procedures to improve the ability of nonutility generation resources to offer their output for sale for the purpose of inclusion in economic dispatch; and

(3) the potential benefits to residential, commercial, and industrial electricity consumers nationally and in each state¹ if economic dispatch procedures were revised to improve the ability of nonutility generation resources to offer their output for inclusion in economic dispatch.

(b) Definition

The term “economic dispatch” when used in this section means the operation of generation facilities to produce energy at the lowest cost to reliably serve consumers, recognizing any operational limits of generation and transmission facilities.

(c) Report to Congress and the States

Not later than 90 days after August 8, 2005, and on a yearly basis following, the Secretary shall submit a report to Congress and the States on

¹ So in original. Probably should be capitalized.

the results of the study conducted under subsection (a), including recommendations to Congress and the States for any suggested legislative or regulatory changes.

(Pub. L. 109–58, title XVIII, §1832, Aug. 8, 2005, 119 Stat. 1138.)

SUBCHAPTER XVII—PROTECTING AMERICA'S COMPETITIVE EDGE THROUGH ENERGY

CODIFICATION

This subchapter was enacted as part of the America COMPETES Act, also known as the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Act, and also as part of the Protecting America's Competitive Edge Through Energy Act, also known as the PACE–Energy Act, and not as part of the Energy Policy Act of 2005, which enacted subchapters I to XVI of this chapter.

§ 16531. Definitions

In this subchapter:

(1) Department

The term “Department” means the Department of Energy.

(2) Institution of higher education

The term “institution of higher education” has the meaning given the term in section 1001(a) of title 20.

(3) National Laboratory

The term “National Laboratory” has the meaning given the term in section 15801 of this title.

(4) Secretary

The term “Secretary” means the Secretary of Energy.

(Pub. L. 110–69, title V, §5002, Aug. 9, 2007, 121 Stat. 600.)

REFERENCES IN TEXT

This subchapter, referred to in introductory provisions, was in the original “this title”, meaning title V of Pub. L. 110–69, Aug. 9, 2007, 121 Stat. 600, known as the Protecting America's Competitive Edge Through Energy Act and also as the PACE–Energy Act, which is classified principally to this subchapter. For complete classification of this title to the Code, see Short Title of 2007 Amendment note set out under section 15801 of this title and Tables.

SHORT TITLE

For short title of title V of Pub. L. 110–69, which enacted this subchapter, as the “Protecting America's Competitive Edge Through Energy Act” or the “PACE–Energy Act”, see section 5001 of Pub. L. 110–69, set out as a note under section 15801 of this title .

§ 16532. Nuclear science talent expansion program for institutions of higher education

(a) Purposes

The purposes of this section are—

- (1) to address the decline in the number of and resources available to nuclear science programs at institutions of higher education; and
- (2) to increase the number of graduates with degrees in nuclear science, an area of strategic importance to the economic competitiveness and energy security of the United States.

(b) Definition of nuclear science

In this section, the term “nuclear science” includes—

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

(c) Establishment

The Secretary shall establish, in accordance with this section, a program to expand and enhance institution of higher education nuclear science educational capabilities.

(d) Nuclear science program expansion grants for institutions of higher education

(1) In general

The Secretary shall award up to 3 competitive grants for each fiscal year to institutions of higher education that establish new academic degree programs in nuclear science.

(2) Priority

In evaluating grants under this subsection, the Secretary shall give priority to proposals that involve partnerships with a National Laboratory or other eligible nuclear-related entity, as determined by the Secretary.

(3) Criteria

Criteria for a grant awarded under this subsection shall be based on—

- (A) the potential to attract new students to the program;
- (B) academic rigor; and
- (C) the ability to offer hands-on learning opportunities.

(4) Duration and amount

(A) Duration

A grant under this subsection may be up to 5 years in duration.

(B) Amount

An institution of higher education that receives a grant under this subsection shall be eligible for up to \$1,000,000 for each year of the grant period.

(5) Use of funds

An institution of higher education that receives a grant under this subsection may use the grant to—

- (A) recruit and retain new faculty;
- (B) develop core and specialized course content;
- (C) encourage collaboration between faculty and researchers in the nuclear science field; and
- (D) support outreach efforts to recruit students.

(e) Nuclear science competitiveness grants for institutions of higher education

(1) In general

The Secretary shall award up to 5 competitive grants for each fiscal year to institutions of higher education with existing academic degree programs that produce graduates in nuclear science.

(2) Criteria

Criteria for a grant awarded under this subsection shall be based on the potential for in-

creasing the number and academic quality of graduates in the nuclear sciences who enter into careers in nuclear-related fields.

(3) Duration and amount

(A) Duration

A grant under this subsection may be up to 5 years in duration.

(B) Amount

An institution of higher education that receives a grant under this subsection shall be eligible for up to \$500,000 for each year of the grant period.

(4) Use of funds

An institution of higher education that receives a grant under this subsection may use the grant to—

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

(B) enhance the teaching of advanced nuclear technologies;

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

(D) bolster or sustain nuclear infrastructure and research facilities of the institution of higher education, such as research and training reactors or laboratories; and

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

(f) Authorization of appropriations

(1) Nuclear science program expansion grants for institutions of higher education

There are authorized to be appropriated to carry out subsection (d)—

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

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

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

(2) Nuclear science competitiveness grants for institutions of higher education

There are authorized to be appropriated to carry out subsection (e)—

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

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

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

(Pub. L. 110-69, title V, §5004, Aug. 9, 2007, 121 Stat. 612.)

§ 16533. Hydrocarbon systems science talent expansion program for institutions of higher education

(a) Purposes

The purposes of this section are—

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

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

(b) Definition of hydrocarbon systems science

In this section:

(1) In general

The term “hydrocarbon systems science” means a science involving natural gas or other

petroleum exploration, development, or production.

(2) Inclusions

The term “hydrocarbon systems science” includes—

(A) petroleum or reservoir engineering;

(B) environmental geoscience;

(C) petrophysics;

(D) geophysics;

(E) geochemistry;

(F) petroleum geology;

(G) ocean engineering;

(H) environmental engineering; and

(I) computer science, as computer science relates to a science described in this subsection.

(c) Establishment

The Secretary shall establish, in accordance with this section, a program to expand and enhance institution of higher education hydrocarbon systems science educational capabilities.

(d) Hydrocarbon systems science program expansion grants for institutions of higher education

(1) In general

The Secretary shall award up to 3 competitive grants for each fiscal year to institutions of higher education that establish new academic degree programs in hydrocarbon systems science.

(2) Eligibility

In evaluating grants under this subsection, the Secretary shall give priority to proposals that involve partnerships with the National Laboratories, including the National Energy Technology Laboratory, or other hydrocarbon systems scientific entities, as determined by the Secretary.

(3) Criteria

Criteria for a grant awarded under this subsection shall be based on—

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

(B) academic rigor; and

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

(4) Duration and amount

(A) Duration

A grant under this subsection may be up to 5 years in duration.

(B) Amount

An institution of higher education that receives a grant under this subsection shall be eligible for up to \$1,000,000 for each year of the grant period.

(5) Use of funds

An institution of higher education that receives a grant under this subsection may use the grant to—

(A) recruit and retain new faculty;

(B) develop core and specialized course content;

(C) encourage collaboration between faculty and researchers in the hydrocarbon systems science field; and

(D) support outreach efforts to recruit students.

(e) Hydrocarbon systems science competitiveness grants for institutions of higher education

(1) In general

The Secretary shall award up to 5 competitive grants for each fiscal year to institutions of higher education with existing academic degree programs that produce graduates in hydrocarbon systems science.

(2) Criteria

Criteria for a grant awarded under this subsection shall be based on the potential for increasing the number and academic quality of graduates in hydrocarbon systems sciences who enter into careers in natural gas and other petroleum exploration, development, and production related fields.

(3) Duration and amount

(A) Duration

A grant under this subsection may be up to 5 years in duration.

(B) Amount

An institution of higher education that receives a grant under this subsection shall be eligible for up to \$500,000 for each year of the grant period.

(4) Use of funds

An institution of higher education that receives a grant under this subsection may use the grant to—

(A) increase the number of graduates in the hydrocarbon systems sciences that enter into careers in the natural gas and other petroleum exploration, development, and production science fields;

(B) enhance the teaching of advanced natural gas and other petroleum exploration, development, and production technologies;

(C) aggressively pursue collaboration opportunities with industry and the National Laboratories, including the National Energy Technology Laboratory;

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

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

(f) Authorization of appropriations

(1) Hydrocarbon systems science program expansion grants for institutions of higher education

There are authorized to be appropriated to carry out subsection (d)—

- (A) \$3,500,000 for fiscal year 2008;
- (B) \$6,500,000 for fiscal year 2009; and
- (C) \$9,500,000 for fiscal year 2010.

(2) Hydrocarbon systems science competitiveness grants for institutions of higher education

There are authorized to be appropriated to carry out subsection (e)—

- (A) \$3,000,000 for fiscal year 2008;
- (B) \$5,500,000 for fiscal year 2009; and
- (C) \$8,000,000 for fiscal year 2010.

(Pub. L. 110–69, title V, §5005, Aug. 9, 2007, 121 Stat. 613.)

§ 16534. Department of Energy early career awards for science, engineering, and mathematics researchers

(a) Grant awards

The Director of the Office of Science of the Department (referred to in this section as the “Director”) shall carry out a program to award grants to scientists and engineers at an early career stage at institutions of higher education and organizations described in subsection (c) to conduct research in fields relevant to the mission of the Department.

(b) Amount and duration

(1) Amount

The amount of a grant awarded under this section shall be—

- (A) not less than \$80,000; and
- (B) not more than \$125,000.

(2) Duration

The term of a grant awarded under this section shall be not more than 5 years.

(c) Eligibility

(1) In general

To be eligible to receive a grant under this section, an individual shall, as determined by the Director—

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

(B) have demonstrated promise in a science, engineering, or mathematics field relevant to the missions of the Department; and

(C) be employed—

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

(ii) at an organization in the United States that is a nonprofit, nondegree-granting research organization such as a museum, observatory, or research laboratory; or

(iii) as a scientist at a National Laboratory.

(2) Waiver

Notwithstanding paragraph (1)(A), the Director may determine that an individual who has completed a doctorate more than 10 years before the date of submission of a proposal under subsection (e)(1) is eligible to receive a grant under this section if the individual was unable to conduct research for a period of time because of extenuating circumstances, including military service or family responsibilities, as determined by the Director.

(d) Selection

Grant recipients shall be selected on a competitive, merit-reviewed basis.

(e) Selection process and criteria**(1) Proposal**

To be eligible to receive a grant under this section, an individual shall submit to the Director a proposal at such time, in such manner, and containing such information as the Director may require.

(2) Evaluation

In evaluating the proposals submitted under paragraph (1), the Director shall take into consideration, at a minimum—

- (A) the intellectual merit of the proposed project;
- (B) the innovative or transformative nature of the proposed research;
- (C) the extent to which the proposal integrates research and education, including undergraduate education in science and engineering disciplines; and
- (D) the potential of the applicant for leadership at the frontiers of knowledge.

(f) Diversity requirement**(1) In general**

In awarding grants under this section, the Director shall endeavor to ensure that the grant recipients represent a variety of types of institutions of higher education and nonprofit, nondegree-granting research organizations.

(2) Requirement

In support of the goal described in paragraph (1), the Director shall broadly disseminate information regarding the deadlines applicable to, and manner in which to submit, proposals for grants under this section, including by conducting outreach activities for—

- (A) part B institutions, as defined in section 1061 of title 20; and
- (B) minority institutions, as defined in section 1067k of title 20.

(g) Report on recruiting and retaining early career science and engineering researchers at National Laboratories**(1) In general**

Not later than 90 days after August 9, 2007, the Director shall submit to the Committee on Science and Technology of the House of Representatives and the Committee on Energy and Natural Resources of the Senate a report describing efforts of the Director to recruit and retain young scientists and engineers at early career stages at the National Laboratories.

(2) Inclusions

The report under paragraph (1) shall include—

- (A) a description of applicable Department and National Laboratory policies and procedures, including policies and procedures relating to financial incentives, awards, promotions, time reserved for independent research, access to equipment or facilities, and other forms of recognition, designed to attract and retain young scientists and engineers;
- (B) an evaluation of the impact of the incentives described in subparagraph (A) on—

- (i) the careers of young scientists and engineers at the National Laboratories; and
- (ii) the quality of the research at the National Laboratories and in Department programs;

- (C) a description of barriers, if any, that exist with respect to efforts to recruit and retain young scientists and engineers, including the limited availability of full-time equivalent positions, legal and procedural requirements, and pay grading systems; and
- (D) the amount of funding devoted to efforts to recruit and retain young researchers, and the source of the funds.

(h) Authorization of appropriations

There is authorized to be appropriated to the Secretary, acting through the Director, to carry out this section \$25,000,000 for each of fiscal years 2008 through 2010.

(Pub. L. 110-69, title V, §5006, Aug. 9, 2007, 121 Stat. 615.)

§ 16535. Discovery science and engineering innovation institutes**(a) In general**

The Secretary shall establish distributed, multidisciplinary institutes (referred to in this section as “Institutes”) centered at National Laboratories to apply fundamental science and engineering discoveries to technological innovations relating to—

- (1) the missions of the Department; and
- (2) the global competitiveness of the United States.

(b) Topical areas

The Institutes shall support scientific and engineering research and education activities on critical emerging technologies determined by the Secretary to be essential to global competitiveness, including activities relating to—

- (1) sustainable energy technologies;
- (2) multiscale materials and processes;
- (3) micro- and nano-engineering;
- (4) computational and information engineering; and
- (5) genomics and proteomics.

(c) Partnerships

In carrying out this section, the Secretary shall establish partnerships between the Institutes and—

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

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

(d) Grants**(1) In general**

For each fiscal year, the Secretary may select not more than 3 Institutes to receive a grant under this section.

(2) Merit-based selection

The selection of Institutes under paragraph (1) shall be—

- (A) merit-based; and
- (B) made through an open, competitive selection process.

(3) Term

An Institute shall receive a grant under this section for not more than 3 fiscal years.

(e) Review

The Secretary shall offer to enter into an agreement with the National Academy of Sciences under which the Academy shall, by not later than 3 years after August 9, 2007—

- (1) review the performance of the Institutes under this section; and
- (2) submit to Congress and the Secretary a report describing the results of the review.

(f) Authorization of appropriations

There is authorized to be appropriated to provide grants to each Institute selected under this section \$10,000,000 for each of fiscal years 2008 through 2010.

(Pub. L. 110-69, title V, §5008, Aug. 9, 2007, 121 Stat. 618.)

§ 16536. Protecting America's Competitive Edge (PACE) graduate fellowship program**(a) Definition of eligible student**

In this section, the term "eligible student" means a student who attends an institution of higher education that offers a doctoral degree in a field relevant to a mission area of the Department.

(b) Establishment

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

(c) Selection**(1) In general**

The Secretary shall award fellowships to eligible students under this section through a competitive merit review process, involving written and oral interviews, that will result in a wide distribution of awards throughout the United States, as determined by the Secretary.

(2) Criteria

The Secretary shall establish selection criteria for awarding fellowships under this section that require an eligible student—

- (A) to pursue a field of science or engineering of importance to a mission area of the Department;
- (B) to demonstrate to the Secretary—
 - (i) the capacity of the eligible student to understand technical topics relating to the fellowship that can be derived from the first principles of the technical topics;
 - (ii) imagination and creativity;
 - (iii) leadership skills in organizations or intellectual endeavors, demonstrated through awards and past experience; and
 - (iv) excellent verbal and communication skills to explain, defend, and demonstrate an understanding of technical subjects relating to the fellowship; and
- (C) to be a citizen or legal permanent resident of the United States.

(d) Awards**(1) Amount**

A fellowship awarded under this section shall—

- (A) provide an annual living stipend; and
- (B) cover—
 - (i) graduate tuition at an institution of higher education described in subsection (a); and
 - (ii) incidental expenses associated with curricula and research at the institution of higher education (including books, computers, and software).

(2) Duration

A fellowship awarded under this section shall be up to 3 years duration within a 5-year period.

(3) Portability

A fellowship awarded under this section shall be portable with the eligible student.

(e) Administration

The Secretary, acting through the Director of Science, Engineering, and Mathematics Education—

- (1) shall administer the program established under this section; and
- (2) may enter into a contract with a non-profit entity to administer the program, including the selection and award of fellowships.

(f) Authorization of appropriations

There are authorized to be appropriated to carry out this section—

- (1) \$7,500,000 for fiscal year 2008;
- (2) \$12,000,000 for fiscal year 2009, including nonexpiring fellowships for the preceding fiscal year; and
- (3) \$20,000,000 for fiscal year 2010, including nonexpiring fellowships for preceding fiscal years.

(Pub. L. 110-69, title V, §5009, Aug. 9, 2007, 121 Stat. 618.)

§ 16537. Distinguished scientist program**(a) Purpose**

The purpose of this section is to promote scientific and academic excellence through collaborations between institutions of higher education and National Laboratories.

(b) Establishment

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

(c) Qualifications

To be eligible for appointment as a distinguished scientist under this section, an individual, by reason of professional background and experience, shall be able to bring international recognition to the appointing institution of higher education or National Laboratory in the field of scientific endeavor of the individual.

(d) Selection

A distinguished scientist appointed under this section shall be selected through an open, competitive process.

(e) Appointment**(1) Institution of higher education**

An appointment by an institution of higher education under this section shall be filled within the tenure allotment of the institution of higher education, at a minimum rank of professor.

(2) National Laboratory

An appointment by a National Laboratory under this section shall be at the rank of the highest grade of distinguished scientist or technical staff of the National Laboratory.

(f) Duration

An appointment under this section shall—

- (1) be for a term of 6 years; and
- (2) consist of 2 3-year funding allotments.

(g) Use of funds

Funds made available under this section may be used for—

- (1) the salary of the distinguished scientist and support staff;
- (2) undergraduate, graduate, and post-doctoral appointments;
- (3) research-related equipment;
- (4) professional travel; and
- (5) such other requirements as the Secretary determines to be necessary to carry out the purpose of the program.

(h) Review**(1) In general**

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

(2) Funding

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

(i) Cost sharing

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

(j) Authorization of appropriations

There are authorized to be appropriated to carry out this section—

- (1) \$15,000,000 for fiscal year 2008;
- (2) \$20,000,000 for fiscal year 2009; and
- (3) \$30,000,000 for fiscal year 2010.

(Pub. L. 110-69, title V, § 5011, Aug. 9, 2007, 121 Stat. 620.)

§ 16538. Advanced Research Projects Agency—Energy**(a) Definitions**

In this section:

(1) ARPA-E

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

(2) Director

The term “Director” means the Director of ARPA-E appointed under subsection (d).

(3) Fund

The term “Fund” means the Energy Transformation Acceleration Fund established under subsection (m)(1).

(b) Establishment

There is established the Advanced Research Projects Agency—Energy within the Department to overcome the long-term and high-risk technological barriers in the development of energy technologies.

(c) Goals**(1) In general**

The goals of ARPA-E shall be—

(A) to enhance the economic and energy security of the United States through the development of energy technologies that result in—

- (i) reductions of imports of energy from foreign sources;
- (ii) reductions of energy-related emissions, including greenhouse gases; and
- (iii) improvement in the energy efficiency of all economic sectors; and

(B) to ensure that the United States maintains a technological lead in developing and deploying advanced energy technologies.

(2) Means

ARPA-E shall achieve the goals established under paragraph (1) through energy technology projects by—

- (A) identifying and promoting revolutionary advances in fundamental sciences;
- (B) translating scientific discoveries and cutting-edge inventions into technological innovations; and
- (C) accelerating transformational technological advances in areas that industry by itself is not likely to undertake because of technical and financial uncertainty.

(d) Director**(1) Appointment**

There shall be in the Department of Energy a Director of ARPA-E, who shall be appointed by the President, by and with the advice and consent of the Senate.

(2) Qualifications

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

(3) Relationship to Secretary

The Director shall report to the Secretary.

(4) Relationship to other programs

No other programs within the Department shall report to the Director.

(e) Responsibilities

The responsibilities of the Director shall include—

(1) approving all new programs within ARPA-E;

(2) developing funding criteria and assessing the success of programs through the establishment of technical milestones;

(3) administering the Fund through awards to institutions of higher education, companies, research foundations, trade and industry research collaborations, or consortia of such entities, which may include federally-funded research and development centers, to achieve the goals described in subsection (c) through targeted acceleration of—

(A) novel early-stage energy research with possible technology applications;

(B) development of techniques, processes, and technologies, and related testing and evaluation;

(C) research and development of manufacturing processes for novel energy technologies; and

(D) coordination with nongovernmental entities for demonstration of technologies and research applications to facilitate technology transfer; and

(4) terminating programs carried out under this section that are not achieving the goals of the programs.

(f) Personnel

(1) Program managers

(A) In general

The Director shall designate employees to serve as program managers for each of the programs established pursuant to the responsibilities established for ARPA-E under subsection (e).

(B) Responsibilities

A program manager of a program shall be responsible for—

(i) establishing research and development goals for the program, including through the convening of workshops and conferring with outside experts, and publicizing the goals of the program to the public and private sectors;

(ii) soliciting applications for specific areas of particular promise, especially areas that the private sector or the Federal Government are not likely to undertake alone;

(iii) building research collaborations for carrying out the program;

(iv) selecting on the basis of merit, with advice under subsection (j) as appropriate, each of the projects to be supported under the program after considering—

(I) the novelty and scientific and technical merit of the proposed projects;

(II) the demonstrated capabilities of the applicants to successfully carry out the proposed project;

(III) the consideration by the applicant of future commercial applications of the project, including the feasibility of partnering with 1 or more commercial entities; and

(IV) such other criteria as are established by the Director;

(v) monitoring the progress of projects supported under the program; and

(vi) recommending program restructure or termination of research partnerships or whole projects.

(C) Term

The term of a program manager shall be 3 years and may be renewed.

(2) Hiring and management

(A) In general

The Director shall have the authority to—

(i) make appointments of scientific, engineering, and professional personnel without regard to the civil service laws; and

(ii) fix the compensation of such personnel at a rate to be determined by the Director.

(B) Number

The Director shall appoint not less than 70, and not more than 120, personnel under this section.

(C) Private recruiting firms

The Secretary, or the Director serving as an agent of the Secretary, may contract with private recruiting firms for the hiring of qualified technical staff to carry out this section.

(D) Additional staff

The Director may use all authorities in existence on August 9, 2007, that are provided to the Secretary to hire administrative, financial, and clerical staff as necessary to carry out this section.

(g) Reports and roadmaps

(1) Annual report

As part of the annual budget request submitted for each fiscal year, the Director shall provide to the relevant authorizing and appropriations committees of Congress a report describing projects supported by ARPA-E during the previous fiscal year.

(2) Strategic vision roadmap

Not later than October 1, 2008, and October 1, 2011, the Director shall provide to the relevant authorizing and appropriations committees of Congress a roadmap describing the strategic vision that ARPA-E will use to guide the choices of ARPA-E for future technology investments over the following 3 fiscal years.

(h) Coordination and nonduplication

(1) In general

To the maximum extent practicable, the Director shall ensure that the activities of ARPA-E are coordinated with, and do not duplicate the efforts of, programs and laboratories within the Department and other relevant research agencies.

(2) Technology Transfer Coordinator

To the extent appropriate, the Director may coordinate technology transfer efforts with the Technology Transfer Coordinator appointed under section 16391 of this title.

(i) Federal demonstration of technologies

The Secretary shall make information available to purchasing and procurement programs of

Federal agencies regarding the potential to demonstrate technologies resulting from activities funded through ARPA-E.

(j) Advice

(1) Advisory committees

The Director may seek advice on any aspect of ARPA-E from—

- (A) an existing Department of Energy advisory committee; and
- (B) a new advisory committee organized to support the programs of ARPA-E and to provide advice and assistance on—
 - (i) specific program tasks; or
 - (ii) overall direction of ARPA-E.

(2) Additional sources of advice

In carrying out this section, the Director may seek advice and review from—

- (A) the President’s Committee of Advisors on Science and Technology; and
- (B) any professional or scientific organization with expertise in specific processes or technologies under development by ARPA-E.

(k) ARPA-E evaluation

(1) In general

After ARPA-E has been in operation for 4 years, the Secretary shall offer to enter into a contract with the National Academy of Sciences under which the National Academy shall conduct an evaluation of how well ARPA-E is achieving the goals and mission of ARPA-E.

(2) Inclusions

The evaluation shall include—

- (A) the recommendation of the National Academy of Sciences on whether ARPA-E should be continued or terminated; and
- (B) a description of lessons learned from operation of ARPA-E.

(3) Availability

On completion of the evaluation, the evaluation shall be made available to Congress and the public.

(l) Existing authorities

The authorities granted by this section are—

- (1) in addition to existing authorities granted to the Secretary; and
- (2) are not intended to supersede or modify any existing authorities.

(m) Funding

(1) Fund

There is established in the Treasury of the United States a fund, to be known as the “Energy Transformation Acceleration Fund”, which shall be administered by the Director for the purposes of carrying out this section.

(2) Authorization of appropriations

Subject to paragraphs (4) and (5), there are authorized to be appropriated to the Director for deposit in the Fund, without fiscal year limitation—

- (A) \$300,000,000 for fiscal year 2008; and
- (B) such sums as are necessary for each of fiscal years 2009 and 2010.

(3) Separate budget and appropriation

(A) Budget request

The budget request for ARPA-E shall be separate from the rest of the budget of the Department.

(B) Appropriations

Appropriations to the Fund shall be separate and distinct from the rest of the budget for the Department.

(4) Limitation

No amounts may be appropriated for ARPA-E for fiscal year 2008 unless the amount appropriated for the activities of the Office of Science of the Department for fiscal year 2008 exceeds the amount appropriated for the Office for fiscal year 2007, as adjusted for inflation in accordance with the Consumer Price Index published by the Bureau of Labor Statistics of the Department of Labor.

(5) Allocation

Of the amounts appropriated for a fiscal year under paragraph (2)—

- (A) not more than 50 percent of the amount shall be used to carry out subsection (e)(3)(D);
- (B) at least 2.5 percent of the amount shall be used for technology transfer and outreach activities; and
- (C) no funds may be used for construction of new buildings or facilities during the 5-year period beginning on August 9, 2007.

(Pub. L. 110-69, title V, §5012, Aug. 9, 2007, 121 Stat. 621.)

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