

§ 16396. Prizes for achievement in grand challenges of science and technology

(a) Authority

The Secretary may carry out a program to award cash prizes in recognition of breakthrough achievements in research, development, demonstration, and commercial application that have the potential for application to the performance of the mission of the Department.

(b) Competition requirements

The program under subsection (a) may include prizes for the achievement of goals articulated by the Secretary in a specific area through a widely advertised solicitation of submission of results for research, development, demonstration, or commercial application projects.

(c) Prizes for processes and technologies to reduce dependence on imported oil

The Secretary, in cooperation with the Freedom Prize Foundation, shall support a program of awarding prizes, to be known as Freedom Prizes, to encourage and recognize the development and deployment of processes and technologies that serve to reduce the dependence of the United States on imported oil.

(d) Relationship to other authority

The program under subsection (a) may be carried out in conjunction with or in addition to the exercise of any other authority of the Secretary to acquire, support, or stimulate research, development, demonstration, or commercial application projects.

(e) Authorization of appropriations

There are authorized to be appropriated—

- (1) \$10,000,000 to carry out the program under subsection (a); and
- (2) \$5,000,000 to carry out the program under subsection (c).

(f) H-prize

(1) Prize authority

(A) In general

As part of the program under this section, the Secretary shall carry out a program to competitively award cash prizes in conformity with this subsection to advance the research, development, demonstration, and commercial application of hydrogen energy technologies.

(B) Advertising and solicitation of competitors

(i) Advertising

The Secretary shall widely advertise prize competitions under this subsection to encourage broad participation, including by individuals, universities (including historically Black colleges and universities and other minority serving institutions), and large and small businesses (including businesses owned or controlled by socially and economically disadvantaged persons).

(ii) Announcement through Federal Register notice

The Secretary shall announce each prize competition under this subsection by pub-

lishing a notice in the Federal Register. This notice shall include essential elements of the competition such as the subject of the competition, the duration of the competition, the eligibility requirements for participation in the competition, the process for participants to register for the competition, the amount of the prize, and the criteria for awarding the prize.

(C) Administering the competitions

The Secretary shall enter into an agreement with a private, nonprofit entity to administer the prize competitions under this subsection, subject to the provisions of this subsection (in this subsection referred to as the “administering entity”). The duties of the administering entity under the agreement shall include—

(i) advertising prize competitions under this subsection and their results;

(ii) raising funds from private entities and individuals to pay for administrative costs and to contribute to cash prizes, including funds provided in exchange for the right to name a prize awarded under this subsection;

(iii) developing, in consultation with and subject to the final approval of the Secretary, the criteria for selecting winners in prize competitions under this subsection, based on goals provided by the Secretary;

(iv) determining, in consultation with the Secretary, the appropriate amount and funding sources for each prize to be awarded under this subsection, subject to the final approval of the Secretary with respect to Federal funding;

(v) providing advice and consultation to the Secretary on the selection of judges in accordance with paragraph (2)(D), using criteria developed in consultation with and subject to the final approval of the Secretary; and

(vi) protecting against the administering entity’s unauthorized use or disclosure of a registered participant’s trade secrets and confidential business information. Any information properly identified as trade secrets or confidential business information that is submitted by a participant as part of a competitive program under this subsection may be withheld from public disclosure.

(D) Funding sources

Prizes under this subsection shall consist of Federal appropriated funds and any funds provided by the administering entity (including funds raised pursuant to subparagraph (C)(ii)) for such cash prize programs. The Secretary may accept funds from other Federal agencies for such cash prizes and, notwithstanding section 3302(b) of title 31, may use such funds for the cash prize program under this subsection. Other than publication of the names of prize sponsors, the Secretary may not give any special consideration to any private sector entity or individual in return for a donation to the Secretary or administering entity.

(E) Announcement of prizes

The Secretary may not issue a notice required by subparagraph (B)(ii) until all the funds needed to pay out the announced amount of the prize have been appropriated or committed in writing by the administering entity. The Secretary may increase the amount of a prize after an initial announcement is made under subparagraph (B)(ii) if—

- (i) notice of the increase is provided in the same manner as the initial notice of the prize; and
- (ii) the funds needed to pay out the announced amount of the increase have been appropriated or committed in writing by the administering entity.

(F) Sunset

The authority to announce prize competitions under this subsection shall terminate on September 30, 2018.

(2) Prize categories**(A) Categories**

The Secretary shall establish prizes under this subsection for—

- (i) advancements in technologies, components, or systems related to—
 - (I) hydrogen production;
 - (II) hydrogen storage;
 - (III) hydrogen distribution; and
 - (IV) hydrogen utilization;

(ii) prototypes of hydrogen-powered vehicles or other hydrogen-based products that best meet or exceed objective performance criteria, such as completion of a race over a certain distance or terrain or generation of energy at certain levels of efficiency; and

(iii) transformational changes in technologies for the distribution or production of hydrogen that meet or exceed far-reaching objective criteria, which shall include minimal carbon emissions and which may include cost criteria designed to facilitate the eventual market success of a winning technology.

(B) Awards**(i) Advancements**

To the extent permitted under paragraph (1)(E), the prizes authorized under subparagraph (A)(i) shall be awarded biennially to the most significant advance made in each of the four subcategories described in subclauses (I) through (IV) of subparagraph (A)(i) since the submission deadline of the previous prize competition in the same category under subparagraph (A)(i) or December 19, 2007, whichever is later, unless no such advance is significant enough to merit an award. No one such prize may exceed \$1,000,000. If less than \$4,000,000 is available for a prize competition under subparagraph (A)(i), the Secretary may omit one or more subcategories, reduce the amount of the prizes, or not hold a prize competition.

(ii) Prototypes

To the extent permitted under paragraph (1)(E), prizes authorized under subpara-

graph (A)(ii) shall be awarded biennially in alternate years from the prizes authorized under subparagraph (A)(i). The Secretary is authorized to award up to one prize in this category in each 2-year period. No such prize may exceed \$4,000,000. If no registered participants meet the objective performance criteria established pursuant to subparagraph (C) for a competition under this clause, the Secretary shall not award a prize.

(iii) Transformational technologies

To the extent permitted under paragraph (1)(E), the Secretary shall announce one prize competition authorized under subparagraph (A)(iii) as soon after December 19, 2007, as is practicable. A prize offered under this clause shall be not less than \$10,000,000, paid to the winner in a lump sum, and an additional amount paid to the winner as a match for each dollar of private funding raised by the winner for the hydrogen technology beginning on the date the winner was named. The match shall be provided for 3 years after the date the prize winner is named or until the full amount of the prize has been paid out, whichever occurs first. A prize winner may elect to have the match amount paid to another entity that is continuing the development of the winning technology. The Secretary shall announce the rules for receiving the match in the notice required by paragraph (1)(B)(ii). The Secretary shall award a prize under this clause only when a registered participant has met the objective criteria established for the prize pursuant to subparagraph (C) and announced pursuant to paragraph (1)(B)(ii). Not more than \$10,000,000 in Federal funds may be used for the prize award under this clause. The administering entity shall seek to raise \$40,000,000 toward the matching award under this clause.

(C) Criteria

In establishing the criteria required by this subsection, the Secretary—

- (i) shall consult with the Department's Hydrogen Technical and Fuel Cell Advisory Committee;
- (ii) shall consult with other Federal agencies, including the National Science Foundation; and
- (iii) may consult with other experts such as private organizations, including professional societies, industry associations, and the National Academy of Sciences and the National Academy of Engineering.

(D) Judges

For each prize competition under this subsection, the Secretary in consultation with the administering entity shall assemble a panel of qualified judges to select the winner or winners on the basis of the criteria established under subparagraph (C). Judges for each prize competition shall include individuals from outside the Department, including from the private sector. A judge, spouse, minor children, and members of the judge's household may not—

(i) have personal or financial interests in, or be an employee, officer, director, or agent of, any entity that is a registered participant in the prize competition for which he or she will serve as a judge; or

(ii) have a familial or financial relationship with an individual who is a registered participant in the prize competition for which he or she will serve as a judge.

(3) Eligibility

To be eligible to win a prize under this subsection, an individual or entity—

(A) shall have complied with all the requirements in accordance with the Federal Register notice required under paragraph (1)(B)(ii);

(B) in the case of a private entity, shall be incorporated in and maintain a primary place of business in the United States, and in the case of an individual, whether participating singly or in a group, shall be a citizen of, or an alien lawfully admitted for permanent residence in, the United States; and

(C) shall not be a Federal entity, a Federal employee acting within the scope of his employment, or an employee of a national laboratory acting within the scope of his employment.

(4) Intellectual property

The Federal Government shall not, by virtue of offering or awarding a prize under this subsection, be entitled to any intellectual property rights derived as a consequence of, or direct relation to, the participation by a registered participant in a competition authorized by this subsection. This paragraph shall not be construed to prevent the Federal Government from negotiating a license for the use of intellectual property developed for a prize competition under this subsection.

(5) Liability

(A) Waiver of liability

The Secretary may require registered participants to waive claims against the Federal Government and the administering entity (except claims for willful misconduct) for any injury, death, damage, or loss of property, revenue, or profits arising from the registered participants' participation in a competition under this subsection. The Secretary shall give notice of any waiver required under this subparagraph in the notice required by paragraph (1)(B)(ii). The Secretary may not require a registered participant to waive claims against the administering entity arising out of the unauthorized use or disclosure by the administering entity of the registered participant's trade secrets or confidential business information.

(B) Liability insurance

(i) Requirements

Registered participants in a prize competition under this subsection shall be required to obtain liability insurance or demonstrate financial responsibility, in amounts determined by the Secretary, for claims by—

(I) a third party for death, bodily injury, or property damage or loss result-

ing from an activity carried out in connection with participation in a competition under this subsection; and

(II) the Federal Government for damage or loss to Government property resulting from such an activity.

(ii) Federal Government insured

The Federal Government shall be named as an additional insured under a registered participant's insurance policy required under clause (i)(I), and registered participants shall be required to agree to indemnify the Federal Government against third party claims for damages arising from or related to competition activities under this subsection.

(6) Report to Congress

Not later than 60 days after the awarding of the first prize under this subsection, and annually thereafter, the Secretary shall transmit to the Congress a report that—

(A) identifies each award recipient;

(B) describes the technologies developed by each award recipient; and

(C) specifies actions being taken toward commercial application of all technologies with respect to which a prize has been awarded under this subsection.

(7) Authorization of appropriations

(A) In general

(i) Awards

There are authorized to be appropriated to the Secretary for the period encompassing fiscal years 2008 through 2017 for carrying out this subsection—

(I) \$20,000,000 for awards described in paragraph (2)(A)(i);

(II) \$20,000,000 for awards described in paragraph (2)(A)(ii); and

(III) \$10,000,000 for the award described in paragraph (2)(A)(iii).

(ii) Administration

In addition to the amounts authorized in clause (i), there are authorized to be appropriated to the Secretary for each of fiscal years 2008 and 2009 \$2,000,000 for the administrative costs of carrying out this subsection.

(B) Carryover of funds

Funds appropriated for prize awards under this subsection shall remain available until expended, and may be transferred, reprogrammed, or expended for other purposes only after the expiration of 10 fiscal years after the fiscal year for which the funds were originally appropriated. No provision in this subsection permits obligation or payment of funds in violation of section 1341 of title 31 (commonly referred to as the Anti-Deficiency Act).

(8) Nonsubstitution

The programs created under this subsection shall not be considered a substitute for Federal research and development programs.

(Pub. L. 109-58, title X, §1008, Aug. 8, 2005, 119 Stat. 933; Pub. L. 110-140, title VI, §654, Dec. 19, 2007, 121 Stat. 1695.)

AMENDMENTS

2007—Subsec. (f). Pub. L. 110-140 added subsec. (f).

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.

SUBCHAPTER XI—PERSONNEL AND TRAINING

§ 16411. Workforce trends and traineeship grants

(a) Definitions

In this section:

(1) Energy technology industry

The term “energy technology industry” includes—

- (A) a renewable energy industry;
- (B) a company that develops or commercializes a device to increase energy efficiency;
- (C) the oil and gas industry;
- (D) the nuclear power industry;
- (E) the coal industry;
- (F) the electric utility industry; and
- (G) any other industrial sector, as the Secretary determines to be appropriate.

(2) Skilled technical personnel

The term “skilled technical personnel” means—

- (A) journey- and apprentice-level workers who are enrolled in, or have completed, a federally-recognized or State-recognized apprenticeship program; and
- (B) other skilled workers in energy technology industries, as determined by the Secretary.

(b) Workforce trends

(1) Monitoring

The Secretary, in consultation with, and using data collected by, the Secretary of Labor, shall monitor trends in the workforce of—

- (A) skilled technical personnel that support energy technology industries; and
- (B) electric power and transmission engineers.

(2) Report on trends

Not later than 1 year after August 8, 2005, the Secretary shall submit to Congress a report on current trends under paragraph (1), with recommendations (as appropriate) to meet the future labor requirements for the energy technology industries.

(3) Report on shortage

As soon as practicable after the date on which the Secretary identifies or predicts a significant national shortage of skilled technical personnel in one or more energy technology industries, the Secretary shall submit to Congress a report describing the shortage.

(c) Traineeship grants for skilled technical personnel

The Secretary, in consultation with the Secretary of Labor, may establish programs in the

appropriate offices of the Department under which the Secretary provides grants to enhance training (including distance learning) for any workforce category for which a shortage is identified or predicted under subsection (b)(2).

(d) Authorization of appropriations

There is authorized to be appropriated to carry out this section \$20,000,000 for each of fiscal years 2006 through 2008.

(Pub. L. 109-58, title XI, § 1101, Aug. 8, 2005, 119 Stat. 937.)

§ 16412. Training guidelines for nonnuclear electric energy industry personnel

(a) In general

The Secretary of Labor, in consultation with the Secretary and in conjunction with the electric industry and recognized employee representatives, shall develop model personnel training guidelines to support the reliability and safety of the nonnuclear electric system.

(b) Requirements

The training guidelines under subsection (a) shall, at a minimum—

- (1) include training requirements for workers engaged in the construction, operation, inspection, or maintenance of nonnuclear electric generation, transmission, or distribution systems, including requirements relating to—

- (A) competency;
- (B) certification; and
- (C) assessment, including—
 - (i) initial and continuous evaluation of workers;
 - (ii) recertification procedures; and
 - (iii) methods for examining or testing the qualification of an individual who performs a covered task; and
- (2) consolidate training guidelines in existence on the date on which the guidelines under subsection (a) are developed relating to the construction, operation, maintenance, and inspection of nonnuclear electric generation, transmission, and distribution facilities, such as guidelines established by the National Electric Safety Code and other industry consensus standards.

(Pub. L. 109-58, title XI, § 1103, Aug. 8, 2005, 119 Stat. 939.)

§ 16413. National Center for Energy Management and Building Technologies

The Secretary shall support the ongoing activities of and explore opportunities for expansion of the National Center for Energy Management and Building Technologies to carry out research, education, and training activities to facilitate the improvement of energy efficiency, indoor environmental quality, and security of industrial, commercial, residential, and public buildings.

(Pub. L. 109-58, title XI, § 1104, Aug. 8, 2005, 119 Stat. 939.)

§ 16414. National Power Plant Operations Technology and Educational Center

(a) Establishment

The Secretary shall support the establishment of a National Power Plant Operations Tech-