

- (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 increasing 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;
- (C) \$9,500,000 for fiscal year 2010;
- (D) \$9,800,000 for fiscal year 2011;
- (E) \$10,100,000 for fiscal year 2012; and
- (F) \$10,400,000 for fiscal year 2013.

(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;
- (C) \$8,000,000 for fiscal year 2010;
- (D) \$8,240,000 for fiscal year 2011;
- (E) \$8,500,000 for fiscal year 2012; and
- (F) \$8,750,000 for fiscal year 2013.

(Pub. L. 110-69, title V, §5004, Aug. 9, 2007, 121 Stat. 612; Pub. L. 111-358, title IX, §902(a), Jan. 4, 2011, 124 Stat. 4044.)

AMENDMENTS

2011—Subsec. (f)(1)(D) to (F). Pub. L. 111-358, §902(a)(1), added subpars. (D) to (F).

Subsec. (f)(2)(D) to (F). Pub. L. 111-358, §902(a)(2), added subpars. (D) to (F).

§ 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;

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

(J) hydrocarbon spill response and remediation.

(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 in-

creasing 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;
- (C) \$9,500,000 for fiscal year 2010;
- (D) \$9,800,000 for fiscal year 2011;
- (E) \$10,000,000 for fiscal year 2012; and
- (F) \$10,400,000 for fiscal year 2013.

(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; Pub. L. 111-358, title IX, §902(b), Jan. 4, 2011, 124 Stat. 4044.)

AMENDMENTS

2011—Subsec. (b)(2)(J). Pub. L. 111-358, §902(b)(1), added subpar. (J).

Subsec. (f)(1)(D) to (F). Pub. L. 111-358, §902(b)(2), added subpars. (D) to (F).

§ 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 Di-

rector 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;