

(E) write computer programs to customize relevant GIS software;

(F) generate maps, charts, and graphs which summarize findings from data research 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 state<sup>1</sup> 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 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.

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

**(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;
- (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—