

TITLE XI—PERSONNEL AND TRAINING

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1 **TITLE XI—PERSONNEL AND**
2 **TRAINING**

3 **SEC. 1101. WORKFORCE TRENDS AND TRAINEESHIP**
4 **GRANTS.**

5 (a) DEFINITIONS.—In this section:

6 (1) ENERGY TECHNOLOGY INDUSTRY.—The
7 term “energy technology industry” includes—

8 (A) a renewable energy industry;

9 (B) a company that develops or commer-
10 cializes a device to increase energy efficiency;

11 (C) the oil and gas industry;

12 (D) the nuclear power industry;

13 (E) the coal industry; and

14 (F) any other industrial sector, as the Sec-
15 retary determines to be appropriate.

16 (2) SKILLED TECHNICAL PERSONNEL.—The
17 term “skilled technical personnel” means—

18 (A) journey- and apprentice-level workers
19 who are enrolled in, or have completed, a feder-
20 ally-recognized or State-recognized apprentice-
21 ship program; and

1 (B) other skilled workers in energy tech-
2 nology industries, as determined by the Sec-
3 retary.

4 (b) WORKFORCE TRENDS.—

5 (1) MONITORING.—The Secretary, in consulta-
6 tion with, and using data collected by, the Secretary
7 of Labor, shall monitor trends in the workforce of
8 the skilled technical personnel that support energy
9 technology industries.

10 (2) REPORT.—As soon as practicable after the
11 date on which the Secretary identifies or predicts a
12 significant national shortage of skilled technical per-
13 sonnel in 1 or more energy technology industries,
14 the Secretary shall submit to Congress a report de-
15 scribing the shortage.

16 (c) TRAINEESHIP GRANTS FOR SKILLED TECHNICAL
17 PERSONNEL.—The Secretary, in consultation with the
18 Secretary of Labor, may establish programs in the appro-
19 priate offices of the Department under which the Sec-
20 retary provides grants to enhance training for any skilled
21 technical personnel for which a shortage is identified or
22 predicted under subsection (b)(2).

23 (d) AUTHORIZATION OF APPROPRIATIONS.—There is
24 authorized to be appropriated to carry out this section
25 \$20,000,000 for each of fiscal years 2006 through 2008.

1 **SEC. 1102. ENERGY RESEARCH FELLOWSHIPS.**

2 (a) POSTDOCTORAL FELLOWSHIP PROGRAM.—The
3 Secretary shall establish a program under which the Sec-
4 retary provides fellowships to encourage outstanding
5 young scientists and engineers to pursue postdoctoral re-
6 search appointments in energy research and development
7 at institutions of higher education of their choice.

8 (b) SENIOR RESEARCH FELLOWSHIPS.—

9 (1) IN GENERAL.—The Secretary shall establish
10 a program under which the Secretary provides fel-
11 lowships to allow outstanding senior researchers and
12 their research groups in energy research and devel-
13 opment to explore research and development topics
14 of their choosing for a period of not less than 3
15 years to be determined by the Secretary.

16 (2) CONSIDERATION.—In providing a fellowship
17 under the program described in paragraph (1), the
18 Secretary shall consider—

19 (A) the past scientific or technical accom-
20 plishment of a senior researcher; and

21 (B) the potential for continued accomplish-
22 ment by the researcher during the period of the
23 fellowship.

24 (c) AUTHORIZATION OF APPROPRIATIONS.—There is
25 authorized to be appropriated to carry out this section
26 \$40,000,000 for each of fiscal years 2006 through 2008.

1 **SEC. 1103. EDUCATIONAL PROGRAMS IN SCIENCE AND**
2 **MATHEMATICS.**

3 (a) AUTHORIZED EDUCATION ACTIVITIES.—Section
4 3165 of the Department of Energy Science Education En-
5 hancement Act (42 U.S.C. 7381b) is amended by adding
6 at the end:

7 “(14) Support competitive events for students,
8 under supervision of teachers, designed to encourage
9 student interest and knowledge in science and math-
10 ematics.”.

11 (b) AUTHORIZATION OF APPROPRIATIONS.—Section
12 3168 of the Department of Energy Science Education En-
13 hancement Act (42 U.S.C. 7381e) is amended by inserting
14 before the period at the end the following: “and
15 \$40,000,000 for each of fiscal years 2006 through 2008.”.

16 **SEC. 1104. TRAINING GUIDELINES FOR ELECTRIC ENERGY**
17 **INDUSTRY PERSONNEL.**

18 (a) IN GENERAL.—The Secretary of Labor, in con-
19 sultation with the Secretary and in conjunction with the
20 electric industry and recognized employee representatives,
21 shall develop model personnel training guidelines to sup-
22 port the reliability and safety of the electric system.

23 (b) REQUIREMENTS.—The training guidelines under
24 subsection (a) shall, at a minimum—

25 (1) include training requirements for workers
26 engaged in the construction, operation, inspection, or

1 maintenance of electric generation, transmission, or
2 distribution systems, including requirements relating
3 to—

4 (A) competency;

5 (B) certification; and

6 (C) assessment, including—

7 (i) initial and continuous evaluation of
8 workers;

9 (ii) recertification procedures; and

10 (iii) methods for examining or testing
11 the qualification of an individual who per-
12 forms a covered task; and

13 (2) consolidate training guidelines in existence
14 on the date on which the guidelines under subsection
15 (a) are developed relating to the construction, oper-
16 ation, maintenance, and inspection of electric gen-
17 eration, transmission, and distribution facilities,
18 such as guidelines established by the National Elec-
19 tric Safety Code and other industry consensus
20 standards.

21 **SEC. 1105. NATIONAL CENTER FOR ENERGY MANAGEMENT**
22 **AND BUILDING TECHNOLOGIES.**

23 (a) IN GENERAL.—The Secretary, [in consultation
24 with the entities described in subsection (b),] shall sup-
25 port the establishment of a National Center for Energy

1 Management and Building Technologies to carry out re-
2 search, education, and training activities to facilitate the
3 improvement of energy efficiency and indoor air quality
4 in industrial, commercial, and residential buildings.

5 (b) ESTABLISHMENT.—The National Center for En-
6 ergy Management and Building Technologies shall be es-
7 tablished by—

8 (1) recognized representatives of employees in
9 the heating, ventilation, and air conditioning indus-
10 try;

11 (2) contractors that install and maintain heat-
12 ing, ventilation, and air conditioning systems and
13 equipment;

14 (3) manufacturers of heating, ventilation, and
15 air conditioning systems and equipment;

16 (4) representatives of the advanced building en-
17 velope industry, including design, window, lighting,
18 and insulation industries; and

19 (5) other entities, as the Secretary considers
20 appropriate.

21 **SEC. 1106. IMPROVED ACCESS TO ENERGY-RELATED SCI-**
22 **ENTIFIC AND TECHNICAL CAREERS.**

23 (a) SCIENCE EDUCATION PROGRAMS.—Section 3164
24 of the Department of Energy Science Education Enhance-

1 ment Act (42 U.S.C. 7381a) is amended by adding at the
2 end the following:

3 “(c) PROGRAMS FOR STUDENTS FROM UNDER-REP-
4 RESENTED GROUPS.—In carrying out a program under
5 subsection (a), the Secretary shall give priority to activi-
6 ties that are designed to encourage students from under-
7 represented groups to pursue scientific and technical ca-
8 reers.”.

9 (b) PARTNERSHIPS WITH HISTORICALLY BLACK
10 COLLEGES AND UNIVERSITIES, HISPANIC-SERVICING IN-
11 STITUTIONS, AND TRIBAL COLLEGES.—The Department
12 of Energy Science Education Enhancement Act (42
13 U.S.C. 7381 et seq.) is amended—

14 (1) by redesignating sections 3167 and 3168 as
15 sections 3168 and 3169, respectively; and

16 (2) by inserting after section 3166 the fol-
17 lowing:

18 **“SEC. 3167. PARTNERSHIPS WITH HISTORICALLY BLACK**
19 **COLLEGES AND UNIVERSITIES, HISPANIC-**
20 **SERVING INSTITUTIONS, AND TRIBAL COL-**
21 **LEGES.**

22 “(a) DEFINITIONS.—In this section:

23 “(1) HISPANIC-SERVING INSTITUTION.—The
24 term ‘Hispanic-serving institution’ has the meaning

1 given the term in section 502(a) of the Higher Edu-
2 cation Act of 1965 (20 U.S.C. 1101a(a)).

3 “(2) HISTORICALLY BLACK COLLEGE OR UNI-
4 VERSITY.—The term ‘historically Black college or
5 university’ has the meaning given the term ‘part B
6 institution’ in section 322 of the Higher Education
7 Act of 1965 (20 U.S.C. 1061).

8 “(3) NATIONAL LABORATORY.—The term ‘Na-
9 tional Laboratory’ has the meaning given the term
10 in [section 903 of the Energy Policy Act of 2005].

11 “(4) SCIENCE FACILITY.—The term ‘science fa-
12 cility’ has the meaning given the term ‘single-pur-
13 pose research facility’ in [section 903 of the Energy
14 Policy Act of 2005].

15 “(5) TRIBAL COLLEGE.—The term ‘tribal col-
16 lege’ has the meaning given the term ‘tribally con-
17 trolled college or university’ in section 2(a) of the
18 Tribally Controlled College Assistance Act of 1978
19 (25 U.S.C. 1801(a)).

20 “(b) EDUCATION PARTNERSHIP.—The Secretary
21 shall require the director of each National Laboratory, and
22 may require the head of any science facility, to increase
23 the participation of historically Black colleges or univer-
24 sities, Hispanic-serving institutions, or tribal colleges in
25 any activity that increases the capacity of the historically

1 Black colleges or universities, Hispanic-serving institu-
2 tions, or tribal colleges to train personnel in science or
3 engineering.

4 “(c) ACTIVITIES.—An activity described in subsection
5 (b) includes—

6 “(1) collaborative research;

7 “(2) equipment transfer;

8 “(3) training activities carried out at a National
9 Laboratory or science facility; and

10 “(4) mentoring activities carried out at a Na-
11 tional Laboratory or science facility.

12 “(d) REPORT.—Not later than 2 years after the date
13 of enactment of this subsection, the Secretary shall submit
14 to Congress a report describing the activities carried out
15 under this section.”.

16 **SEC. 1107. NATIONAL POWER PLANT OPERATIONS TECH-**
17 **NOLOGY AND EDUCATION CENTER.**

18 (a) ESTABLISHMENT.—The Secretary shall support
19 the establishment of a National Power Plant Operations
20 Technology and Education Center (referred to in this sec-
21 tion as the “Center”), to address the need for training
22 and educating certified operators for electric power gen-
23 eration plants.

1 (b) LOCATION OF CENTER.—The Secretary shall
2 support the establishment of the Center at an institution
3 of higher education that has—

4 (1) expertise in power plant technology and op-
5 eration; and

6 (2) the ability to provide onsite and Internet-
7 based training.

8 (c) TRAINING AND CONTINUING EDUCATION.—

9 (1) IN GENERAL.—The Center shall provide
10 training and continuing education relating to electric
11 power generation plant technologies and operations.

12 (2) LOCATION.—The Center shall carry out
13 training and education activities under paragraph

14 (1)—

15 (A) at the Center; and

16 (B) through Internet-based information
17 technologies that allow for learning at a remote
18 site.