

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

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Sec. 1101. Workforce trends and traineeship grants.

Sec. 1102. Educational programs in science and mathematics.

Sec. 1103. Training guidelines for nonnuclear electric energy industry personnel.

Sec. 1104. National Center for Energy Management and Building Technologies.

Sec. 1105. Improved access to energy-related scientific and technical careers.

Sec. 1106. National Power Plant Operations Technology and Educational Center.

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;

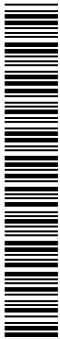
12 (D) the nuclear power industry;

13 (E) the coal industry;

14 (F) the electric utility industry; and

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

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



1 (A) journey- and apprentice-level workers
2 who are enrolled in, or have completed, a feder-
3 ally-recognized or State-recognized apprentice-
4 ship program; and

5 (B) other skilled workers in energy tech-
6 nology industries, as determined by the Sec-
7 retary.

8 (b) WORKFORCE TRENDS.—

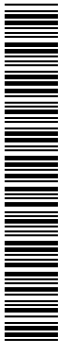
9 (1) MONITORING.—The Secretary, in consulta-
10 tion with, and using data collected by, the Secretary
11 of Labor, shall monitor trends in the workforce of—

12 (A) skilled technical personnel that support
13 energy technology industries; and

14 (B) electric power and transmission engi-
15 neers.

16 (2) REPORT ON TRENDS.—Not later than 1
17 year after the date of enactment of this Act, the
18 Secretary shall submit to Congress a report on cur-
19 rent trends under paragraph (1), with recommenda-
20 tions (as appropriate) to meet the future labor re-
21 quirements for the energy technology industries.

22 (3) REPORT ON SHORTAGE.—As soon as prac-
23 ticable after the date on which the Secretary identi-
24 fies or predicts a significant national shortage of
25 skilled technical personnel in 1 or more energy tech-



1 nology industries, the Secretary shall submit to Con-
2 gress a report describing the shortage.

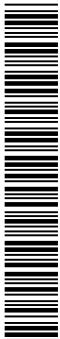
3 (c) TRAINEESHIP GRANTS FOR SKILLED TECHNICAL
4 PERSONNEL.—The Secretary, in consultation with the
5 Secretary of Labor, may establish programs in the appro-
6 priate offices of the Department under which the Sec-
7 retary provides grants to enhance training (including dis-
8 tance learning) for any workforce category for which a
9 shortage is identified or predicted under subsection (b)(2).

10 (d) AUTHORIZATION OF APPROPRIATIONS.—There is
11 authorized to be appropriated to carry out this section
12 \$20,000,000 for each of fiscal years 2006 through 2008.

13 **SEC. 1102. EDUCATIONAL PROGRAMS IN SCIENCE AND**
14 **MATHEMATICS.**

15 (a) SCIENCE EDUCATION ENHANCEMENT FUND.—
16 Section 3164 of the Department of Energy Science Edu-
17 cation Enhancement Act (42 U.S.C. 7381a) is amended
18 by adding at the end:

19 “(c) SCIENCE EDUCATION ENHANCEMENT FUND.—
20 The Secretary shall use not less than 0.3 percent of the
21 amount made available to the Department for research,
22 development, demonstration, and commercial application
23 for fiscal year 2006 and each fiscal year thereafter to
24 carry out activities authorized by this part.”.



1 (b) AUTHORIZED EDUCATION ACTIVITIES.—Section
2 3165 of the Department of Energy Science Education En-
3 hancement Act (42 U.S.C. 7381b) is amended by adding
4 at the end the following:

5 “(14) Support competitive events for students
6 under the supervision of teachers, designed to en-
7 courage student interest and knowledge in science
8 and mathematics.

9 “(15) Support competitively-awarded, peer-re-
10 viewed programs to promote professional develop-
11 ment for mathematics teachers and science teachers
12 who teach in grades from kindergarten through
13 grade 12 at Department research and development
14 facilities.

15 “(16) Support summer internships at Depart-
16 ment research and development facilities, for mathe-
17 matics teachers and science teachers who teach in
18 grades from kindergarten through grade 12.

19 “(17) Sponsor and assist in educational and
20 training activities identified as critical skills needs
21 for future workforce development at Department re-
22 search and development facilities.”.

23 (c) EDUCATIONAL PARTNERSHIPS.—Section 3166(b)
24 of the Department of Energy Science Education Enhance-
25 ment Act (42 U.S.C. 7381c(b)) is amended—



1 (1) by striking paragraph (1) and inserting the
2 following:

3 “(1) loaning or transferring equipment to the
4 institution;”;

5 (2) in paragraph (5), by striking “and” at the
6 end;

7 (3) in paragraph (6), by striking the period at
8 the end and inserting “; and”; and

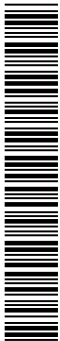
9 (4) by adding at the end the following:

10 “(7) providing funds to educational institutions
11 to hire personnel to facilitate interactions between
12 local school systems, Department research and devel-
13 opment facilities, and corporate and governmental
14 entities.”.

15 (d) DEFINITION OF DEPARTMENT RESEARCH AND
16 DEVELOPMENT FACILITIES.—Section 3167(3) of the De-
17 partment of Energy Science Education Enhancement Act
18 (42 U.S.C. 7381d(3)) is amended by striking “from the
19 Office of Science of the Department of Energy” and in-
20 serting “by the Department of Energy”.

21 (e) STUDY.—

22 (1) IN GENERAL.—The Secretary, in consulta-
23 tion with the Department of Education, shall enter
24 into an arrangement with the National Academy of
25 Public Administration to conduct a study of the pri-



1 orities, quality, local and regional flexibility, and
2 plans for educational programs at Department re-
3 search and development facilities.

4 (2) INCLUSION.—The study shall recommend
5 measures that the Secretary may take to improve
6 Department-wide coordination of educational, work-
7 force development, and critical skills development ac-
8 tivities.

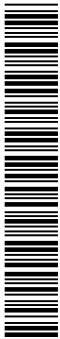
9 (3) REPORT.—Not later than 2 years after the
10 date of enactment of this Act, the Secretary shall
11 submit to Congress a report on the results of the
12 study conducted under this subsection.

13 **SEC. 1103. TRAINING GUIDELINES FOR NONNUCLEAR ELEC-**
14 **TRIC ENERGY INDUSTRY PERSONNEL.**

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

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

23 (1) include training requirements for workers
24 engaged in the construction, operation, inspection, or
25 maintenance of nonnuclear electric generation,



1 transmission, or distribution systems, including re-
2 quirements relating to—

3 (A) competency;

4 (B) certification; and

5 (C) assessment, including—

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

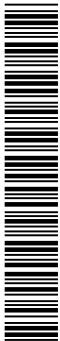
8 (ii) recertification procedures; and

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

12 (2) consolidate training guidelines in existence
13 on the date on which the guidelines under subsection
14 (a) are developed relating to the construction, oper-
15 ation, maintenance, and inspection of nonnuclear
16 electric generation, transmission, and distribution fa-
17 cilities, such as guidelines established by the Na-
18 tional Electric Safety Code and other industry con-
19 sensus standards.

20 **SEC. 1104. NATIONAL CENTER FOR ENERGY MANAGEMENT**
21 **AND BUILDING TECHNOLOGIES.**

22 The Secretary shall support the ongoing activities of
23 the National Center for Energy Management and Building
24 Technologies to carry out research, education, and train-
25 ing activities to facilitate the improvement of energy effi-



1 ciency, indoor environmental quality, and security of in-
2 dustrial, commercial, residential, and public buildings.

3 **SEC. 1105. IMPROVED ACCESS TO ENERGY-RELATED SCI-**
4 **ENTIFIC AND TECHNICAL CAREERS.**

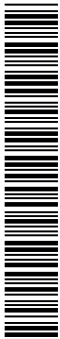
5 (a) SCIENCE EDUCATION PROGRAMS.—Section 3164
6 of the Department of Energy Science Education Enhance-
7 ment Act (42 U.S.C. 7381a) (as amended by section
8 1102(a)) is amended by adding at the end the following:

9 “(d) PROGRAMS FOR STUDENTS FROM UNDER-REP-
10 RESENTED GROUPS.—In carrying out a program under
11 subsection (a), the Secretary shall give priority to activi-
12 ties that are designed to encourage students from under-
13 represented groups to pursue scientific and technical ca-
14 reers.”.

15 (b) PARTNERSHIPS WITH HISTORICALLY BLACK
16 COLLEGES AND UNIVERSITIES, HISPANIC-SERVICING IN-
17 STITUTIONS, AND TRIBAL COLLEGES.—The Department
18 of Energy Science Education Enhancement Act (42
19 U.S.C. 7381 et seq.) is amended—

20 (1) by redesignating sections 3167 and 3168 as
21 sections 3168 and 3169, respectively; and

22 (2) by inserting after section 3166 the fol-
23 lowing:



1 **“SEC. 3167. PARTNERSHIPS WITH HISTORICALLY BLACK**
2 **COLLEGES AND UNIVERSITIES, HISPANIC-**
3 **SERVING INSTITUTIONS, AND TRIBAL COL-**
4 **LEGES.**

5 “(a) DEFINITIONS.—In this section:

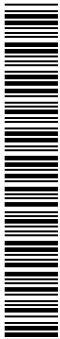
6 “(1) HISPANIC-SERVING INSTITUTION.—The
7 term ‘Hispanic-serving institution’ has the meaning
8 given the term in section 502(a) of the Higher Edu-
9 cation Act of 1965 (20 U.S.C. 1101a(a)).

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

15 “(3) NATIONAL LABORATORY.—The term ‘Na-
16 tional Laboratory’ has the meaning given the term
17 in section 2 of the Energy Policy Act of 2005.

18 “(4) SCIENCE FACILITY.—The term ‘science fa-
19 cility’ has the meaning given the term ‘single-pur-
20 pose research facility’ in section 903 of the Energy
21 Policy Act of 2005.

22 “(5) TRIBAL COLLEGE.—The term ‘tribal col-
23 lege’ has the meaning given the term ‘tribally con-
24 trolled college or university’ in section 2(a) of the
25 Tribally Controlled College Assistance Act of 1978
26 (25 U.S.C. 1801(a)).



1 “(b) EDUCATION PARTNERSHIP.—The Secretary
2 shall require the director of each National Laboratory, and
3 may require the head of any science facility, to increase
4 the participation of historically Black colleges or univer-
5 sities, Hispanic-serving institutions, or tribal colleges in
6 any activity that increases the capacity of the historically
7 Black colleges or universities, Hispanic-serving institu-
8 tions, or tribal colleges to train personnel in science or
9 engineering.

10 “(c) ACTIVITIES.—An activity described in subsection
11 (b) includes—

12 “(1) collaborative research;

13 “(2) equipment transfer;

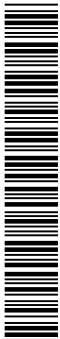
14 “(3) training activities carried out at a National
15 Laboratory or science facility; and

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

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

22 **SEC. 1106. NATIONAL POWER PLANT OPERATIONS TECH-**
23 **NOLOGY AND EDUCATIONAL CENTER.**

24 (a) ESTABLISHMENT.—The Secretary shall support
25 the establishment of a National Power Plant Operations



1 Technology and Education Center (referred to in this sec-
2 tion as the “Center”), to address the need for training
3 and educating certified operators and technicians for the
4 electric power industry.

5 (b) LOCATION OF CENTER.—The Secretary shall
6 support the establishment of the Center at an institution
7 of higher education that has—

8 (1) expertise in providing degree programs in
9 electric power generation, transmission, and dis-
10 tribution technologies;

11 (2) expertise in providing onsite and Internet-
12 based training; and

13 (3) demonstrated responsiveness to workforce
14 and training requirements in the electric power in-
15 dustry.

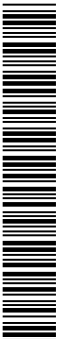
16 (c) TRAINING AND CONTINUING EDUCATION.—

17 (1) IN GENERAL.—The Center shall provide
18 training and continuing education in electric power
19 generation, transmission, and distribution tech-
20 nologies and operations.

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

23 (1)—

24 (A) at the Center; and



1 (B) through Internet-based information
2 technologies that allow for learning at remote
3 sites.

