

111TH CONGRESS
2D SESSION

S. 3117

To strengthen the capacity of eligible institutions to provide instruction in nanotechnology.

IN THE SENATE OF THE UNITED STATES

MARCH 15, 2010

Mr. WYDEN (for himself and Ms. SNOWE) introduced the following bill; which was read twice and referred to the Committee on Health, Education, Labor, and Pensions

A BILL

To strengthen the capacity of eligible institutions to provide instruction in nanotechnology.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Promote Nanotechnol-
5 ogy in Schools Act”.

6 **SEC. 2. NANOTECHNOLOGY IN SCHOOLS.**

7 (a) FINDINGS.—Congress makes the following find-
8 ings:

9 (1) The rapidly growing field of nanotechnology
10 is generating scientific and technological break-

1 throughs that will benefit society by improving the
2 way many things are designed and made.

3 (2) Nanotechnology is likely to have a signifi-
4 cant, positive impact on the security, economic well-
5 being, and health of Americans as fields related to
6 nanotechnology expand.

7 (3) In order to maximize the benefits of nano-
8 technology to individuals in the United States, the
9 United States must maintain world leadership in the
10 field, including nanoscience and microtechnology, in
11 the face of determined competition from other na-
12 tions.

13 (4) According to the National Science Founda-
14 tion, foreign students on temporary visas earned 33
15 percent of all science and engineering doctorates
16 awarded in the United States in 2007, the last year
17 for which data are available. Foreign students
18 earned 63 percent of the engineering doctorates.

19 (5) To maintain world leadership in nanotech-
20 nology, the United States must make a long-term in-
21 vestment in educating United States students in sec-
22 ondary schools and institutions of higher education,
23 so that the students are able to conduct nanoscience
24 research and develop and commercialize nanotech-
25 nology applications.

1 (6) Preparing United States students for ca-
2 reers in nanotechnology, including nanoscience, re-
3 quires that the students have access to the necessary
4 scientific tools, including instruments designed for
5 teaching, and requires training to enable teachers
6 and professors to use those tools in the classroom
7 and the laboratory.

8 (b) PURPOSE.—The purpose of this section is to
9 strengthen the capacity of United States secondary
10 schools and institutions of higher education to prepare
11 students for careers in nanotechnology by providing grants
12 to those schools and institutions to provide the tools nec-
13 essary for such preparation.

14 (c) DEFINITIONS.—In this section:

15 (1) DIRECTOR.—The term “Director” means
16 the Director of the National Science Foundation.

17 (2) ELIGIBLE INSTITUTION.—The term “eligi-
18 ble institution” means an institution that is—

19 (A) a public, private, parochial, or charter
20 secondary school that offers 1 or more ad-
21 vanced placement science courses or inter-
22 national baccalaureate science courses;

23 (B) a community college, as defined in sec-
24 tion 3301 of the Elementary and Secondary
25 Education Act of 1965 (20 U.S.C. 7011);

1 (C) a 2-year institution of higher edu-
2 cation, a 4-year institution of higher education,
3 or a branch (within the meaning of section
4 498(j) of the Higher Education Act of 1965
5 (20 U.S.C. 1099c(j))) of such an institution; or

6 (D) a informal learning science and tech-
7 nology center.

8 (3) QUALIFIED NANOTECHNOLOGY EQUIP-
9 MENT.—The term “qualified nanotechnology equip-
10 ment” means equipment, instrumentation, or hard-
11 ware that is—

12 (A) used for teaching nanotechnology in
13 the classroom; and

14 (B) manufactured in the United States at
15 least 50 percent from articles, materials, or
16 supplies that are mined, produced, or manufac-
17 tured, as the case may be, in the United States.

18 (d) PROGRAM AUTHORIZED.—

19 (1) PROGRAM AUTHORIZED.—The Director
20 shall establish a nanotechnology in the schools pro-
21 gram to strengthen the capacity of eligible institu-
22 tions to provide instruction in nanotechnology. In
23 carrying out the program, the Director shall award
24 grants, of not more than \$400,000, to eligible insti-

1 tutions to enable the eligible institutions to provide
2 such instruction.

3 (2) ACTIVITIES SUPPORTED.—

4 (A) IN GENERAL.—An eligible institution
5 shall use a grant awarded under this section—

6 (i) to acquire qualified nanotechnology
7 equipment and software designed for
8 teaching students about nanotechnology in
9 the classroom;

10 (ii) to develop and provide educational
11 services, including carrying out faculty de-
12 velopment, to prepare students or faculty
13 seeking a degree or certificate that is ap-
14 proved by the State, or a regional accred-
15 iting body recognized by the Secretary of
16 Education;

17 (iii) to provide teacher education and
18 certification to individuals who seek to ac-
19 quire or enhance technology skills in order
20 to use nanotechnology in the classroom or
21 instructional process; and

22 (iv) to service, maintain, repair, or up-
23 grade qualified nanotechnology equipment.

24 (B) LIMITATION.—Not more than $\frac{1}{4}$ of
25 the amount of the funds made available through

1 a grant awarded under this section may be used
2 for software, educational services, or teacher
3 education and certification as described in this
4 paragraph.

5 (3) APPLICATIONS AND SELECTION.—

6 (A) IN GENERAL.—To be eligible to receive
7 a grant under this section, an eligible institu-
8 tion shall submit an application to the Director
9 at such time, in such manner, and accompanied
10 by such information as the Director may rea-
11 sonably require.

12 (B) PROCEDURE.—Not later than 180
13 days after the date of enactment of this Act,
14 the Director shall establish a procedure for ac-
15 cepting such applications and publish an an-
16 nouncement of such procedure, including a
17 statement regarding the availability of funds, in
18 the Federal Register.

19 (C) SELECTION.—In selecting eligible in-
20 stitutions to receive grants under this section,
21 and encouraging eligible institutions to apply
22 for such grants, the Director shall, to the great-
23 est extent practicable—

24 (i) select eligible institutions in geo-
25 graphically diverse locations;

1 (ii) encourage the application of his-
 2 torically Black colleges and universities
 3 (meaning part B institutions, as defined in
 4 section 322 of the Higher Education Act
 5 of 1965 (20 U.S.C. 1061)) and minority
 6 institutions (as defined in section 365 of
 7 such Act (20 U.S.C. 1067k)); and

8 (iii) select eligible institutions that in-
 9 clude institutions located in States partici-
 10 pating in the Experimental Program to
 11 Stimulate Competitive Research (com-
 12 monly known as “EPSCoR”).

13 (4) MATCHING REQUIREMENT AND LIMITA-
 14 TION.—

15 (A) IN GENERAL.—

16 (i) REQUIREMENT.—The Director
 17 may not award a grant to an eligible insti-
 18 tution under this section unless the eligible
 19 institution agrees that, with respect to the
 20 costs to be incurred by the eligible institu-
 21 tion in carrying out the program for which
 22 the grant was awarded, the eligible institu-
 23 tion will make available (directly or
 24 through donations from public or private
 25 entities) non-Federal contributions in an

1 amount equal to $\frac{1}{4}$ of the amount of the
2 grant.

3 (ii) WAIVER.—The Director shall
4 waive the matching requirement described
5 in clause (i) for any eligible institution
6 with no endowment, or an endowment that
7 has a dollar value lower than \$5,000,000,
8 as of the date of the waiver.

9 (B) LIMITATION.—

10 (i) BRANCHES.—If a branch described
11 in subsection (c)(2)(C) receives a grant
12 under this section that exceeds \$100,000,
13 then the branch shall not be eligible, until
14 2 years after the date of receipt of the
15 grant, to receive another grant under this
16 section.

17 (ii) OTHER ELIGIBLE INSTITU-
18 TIONS.—If an eligible institution other
19 than a branch referred to in clause (i) re-
20 ceives a grant under this section that ex-
21 ceeds \$100,000, then the eligible institu-
22 tion shall not be eligible, until 2 years after
23 the date of receipt of the grant, to receive
24 another grant under this section.

25 (5) ANNUAL REPORT AND EVALUATION.—

1 (A) REPORT BY ELIGIBLE INSTITU-
2 TIONS.—Each eligible institution that receives a
3 grant under this section shall prepare and sub-
4 mit a report to the Director, not later than 1
5 year after the date of receipt of the grant, on
6 the eligible institution’s use of the grant funds.

7 (B) REVIEW AND EVALUATION.—

8 (i) REVIEW.—The Director shall an-
9 nually review the reports submitted under
10 subparagraph (A).

11 (ii) EVALUATION.—At the end of
12 every third year, the Director shall evalu-
13 ate the program authorized by this section
14 on the basis of the reports submitted under
15 subparagraph (A). The Director, in the
16 evaluation, shall describe the activities car-
17 ried out by the eligible institutions receiv-
18 ing grants under this section and shall as-
19 sess the short-range and long-range impact
20 of the activities carried out under the
21 grants on the students, faculty, and staff
22 of the eligible institutions.

23 (C) REPORT TO CONGRESS.—Not later
24 than 6 months after conducting an evaluation
25 under subparagraph (B)(ii), the Director shall

1 prepare and submit a report to Congress based
2 on the evaluation. In the report, the Director
3 shall include such recommendations, including
4 recommendations concerning the continuing
5 need for Federal support of the program car-
6 ried out under this section, as may be appro-
7 priate.

8 (e) AUTHORIZATION OF APPROPRIATIONS.—There
9 are authorized to be appropriated to the Director to carry
10 out this section \$15,000,000 for fiscal year 2010, and
11 such sums as may be necessary for each of the fiscal years
12 2011 through 2013.

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