

SEC. 3011. REPORT ON NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY EFFORTS TO RECRUIT AND RETAIN EARLY CAREER SCIENCE AND ENGINEERING RESEARCHERS.

Not later than 3 months after the date of the enactment of this Act, the Director of the National Institute of Standards and Technology shall submit to the Committee on Science and Technology of the House of Representatives and to the Committee on Commerce, Science, and Transportation of the Senate a report on efforts to recruit and retain young scientists and engineers at the early stages of their careers at the National Institute of Standards and Technology laboratories and joint institutes. The report shall include—

(1) a description of National Institute of Standards and Technology policies and procedures, including financial incentives, awards, promotions, time set aside for independent research, access to equipment or facilities, and other forms of recognition, designed to attract and retain young scientists and engineers;

(2) an evaluation of the impact of these incentives on the careers of young scientists and engineers at the National Institute of Standards and Technology, and also on the quality of the research at the National Institute of Standards and Technology's laboratories and in the National Institute of Standards and Technology's programs;

(3) a description of what barriers, if any, exist to efforts to recruit and retain young scientists and engineers, including limited availability of full time equivalent positions, legal and procedural requirements, and pay grading systems; and

(4) the amount of funding devoted to efforts to recruit and retain young researchers and the source of such funds.

SEC. 3012. TECHNOLOGY INNOVATION PROGRAM.

(a) **REPEAL OF ADVANCED TECHNOLOGY PROGRAM.**—Section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n) is repealed.

(b) **ESTABLISHMENT OF TECHNOLOGY INNOVATION PROGRAM.**—The National Institute of Standards and Technology Act (15 U.S.C. 271 et seq.) is amended by inserting after section 27 the following:

“SEC. 28. TECHNOLOGY INNOVATION PROGRAM.

15 USC 278n.

“(a) **ESTABLISHMENT.**—There is established within the Institute a program linked to the purpose and functions of the Institute, to be known as the ‘Technology Innovation Program’ for the purpose of assisting United States businesses and institutions of higher education or other organizations, such as national laboratories and nonprofit research institutions, to support, promote, and accelerate innovation in the United States through high-risk, high-reward research in areas of critical national need.

“(b) **EXTERNAL FUNDING.**—

“(1) **IN GENERAL.**—The Director shall award competitive, merit-reviewed grants, cooperative agreements, or contracts to—

“(A) eligible companies that are small-sized businesses or medium-sized businesses; or

“(B) joint ventures.

“(2) **SINGLE COMPANY AWARDS.**—No award given to a single company shall exceed \$3,000,000 over 3 years.

“(3) JOINT VENTURE AWARDS.—No award given to a joint venture shall exceed \$9,000,000 over 5 years.

“(4) FEDERAL COST SHARE.—The Federal share of a project funded by an award under the program shall not be more than 50 percent of total project costs.

“(5) PROHIBITIONS.—Federal funds awarded under this program may be used only for direct costs and not for indirect costs, profits, or management fees of a contractor. Any business that is not a small-sized or medium-sized business may not receive any funding under this program.

“(c) AWARD CRITERIA.—The Director shall only provide assistance under this section to an entity—

“(1) whose proposal has scientific and technical merit and may result in intellectual property vesting in a United States entity that can commercialize the technology in a timely manner;

“(2) whose application establishes that the proposed technology has strong potential to address critical national needs through transforming the Nation’s capacity to deal with major societal challenges that are not currently being addressed, and generate substantial benefits to the Nation that extend significantly beyond the direct return to the applicant;

“(3) whose application establishes that the research has strong potential for advancing the state-of-the-art and contributing significantly to the United States science and technology knowledge base;

“(4) whose proposal explains why Technology Innovation Program support is necessary, including evidence that the research will not be conducted within a reasonable time period in the absence of financial assistance under this section;

“(5) whose application demonstrates that reasonable efforts have been made to secure funding from alternative funding sources and no other alternative funding sources are reasonably available to support the proposal; and

“(6) whose application explains the novelty of the technology and demonstrates that other entities have not already developed, commercialized, marketed, distributed, or sold similar technologies.

“(d) COMPETITIONS.—The Director shall solicit proposals at least annually to address areas of critical national need for high-risk, high-reward projects.

“(e) INTELLECTUAL PROPERTY RIGHTS OWNERSHIP.—

“(1) IN GENERAL.—Title to any intellectual property developed by a joint venture from assistance provided under this section may vest in any participant in the joint venture, as agreed by the members of the joint venture, notwithstanding section 202 (a) and (b) of title 35, United States Code. The United States may reserve a nonexclusive, nontransferable, irrevocable paid-up license, to have practice for or on behalf of the United States in connection with any such intellectual property, but shall not in the exercise of such license publicly disclose proprietary information related to the license. Title to any such intellectual property shall not be transferred or passed, except to a participant in the joint venture, until the expiration of the first patent obtained in connection with such intellectual property.

“(2) LICENSING.—Nothing in this subsection shall be construed to prohibit the licensing to any company of intellectual property rights arising from assistance provided under this section.

“(3) DEFINITION.—For purposes of this subsection, the term ‘intellectual property’ means an invention patentable under title 35, United States Code, or any patent on such an invention, or any work for which copyright protection is available under title 17, United States Code.

“(f) PROGRAM OPERATION.—Not later than 9 months after the date of the enactment of this section, the Director shall promulgate regulations—

Deadline.
Regulations.

“(1) establishing criteria for the selection of recipients of assistance under this section;

“(2) establishing procedures regarding financial reporting and auditing to ensure that awards are used for the purposes specified in this section, are in accordance with sound accounting practices, and are not funding existing or planned research programs that would be conducted within a reasonable time period in the absence of financial assistance under this section; and

“(3) providing for appropriate dissemination of Technology Innovation Program research results.

“(g) ANNUAL REPORT.—The Director shall submit annually to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science and Technology of the House of Representatives a report describing the Technology Innovation Program’s activities, including a description of the metrics upon which award funding decisions were made in the previous fiscal year, any proposed changes to those metrics, metrics for evaluating the success of ongoing and completed awards, and an evaluation of ongoing and completed awards. The first annual report shall include best practices for management of programs to stimulate high-risk, high-reward research.

“(h) CONTINUATION OF ATP GRANTS.—The Director shall, through the Technology Innovation Program, continue to provide support originally awarded under the Advanced Technology Program, in accordance with the terms of the original award and consistent with the goals of the Technology Innovation Program.

“(i) COORDINATION WITH OTHER STATE AND FEDERAL TECHNOLOGY PROGRAMS.—In carrying out this section, the Director shall, as appropriate, coordinate with other senior State and Federal officials to ensure cooperation and coordination in State and Federal technology programs and to avoid unnecessary duplication of efforts.

“(j) ACCEPTANCE OF FUNDS FROM OTHER FEDERAL AGENCIES.—In addition to amounts appropriated to carry out this section, the Secretary and the Director may accept funds from other Federal agencies to support awards under the Technology Innovation Program. Any award under this section which is supported with funds from other Federal agencies shall be selected and carried out according to the provisions of this section. Funds accepted from other Federal agencies shall be included as part of the Federal cost share of any project funded under this section.

“(k) TIP ADVISORY BOARD.—

“(1) ESTABLISHMENT.—There is established within the Institute a TIP Advisory Board.

“(2) MEMBERSHIP.—

“(A) IN GENERAL.—The TIP Advisory Board shall consist of 10 members appointed by the Director, at least 7 of whom shall be from United States industry, chosen to reflect the wide diversity of technical disciplines and industrial sectors represented in Technology Innovation Program projects. No member shall be an employee of the Federal Government.

“(B) TERM.—Except as provided in subparagraph (C) or (D), the term of office of each member of the TIP Advisory Board shall be 3 years.

“(C) CLASSES.—The original members of the TIP Advisory Board shall be appointed to 3 classes. One class of 3 members shall have an initial term of 1 year, one class of 3 members shall have an initial term of 2 years, and one class of 4 members shall have an initial term of 3 years.

“(D) VACANCIES.—Any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term.

“(E) SERVING CONSECUTIVE TERMS.—Any person who has completed 2 consecutive full terms of service on the TIP Advisory Board shall thereafter be ineligible for appointment during the 1-year period following the expiration of the second such term.

“(3) PURPOSE.—The TIP Advisory Board shall meet not less than 2 times annually, and provide the Director—

“(A) advice on programs, plans, and policies of the Technology Innovation Program;

“(B) reviews of the Technology Innovation Program’s efforts to accelerate the research and development of challenging, high-risk, high-reward technologies in areas of critical national need;

“(C) reports on the general health of the program and its effectiveness in achieving its legislatively mandated mission; and

“(D) guidance on investment areas that are appropriate for Technology Innovation Program funding;

“(4) ADVISORY CAPACITY.—In discharging its duties under this subsection, the TIP Advisory Board shall function solely in an advisory capacity, in accordance with the Federal Advisory Committee Act.

“(5) ANNUAL REPORT.—The TIP Advisory Board shall transmit an annual report to the Secretary for transmittal to the Congress not later than 30 days after the submission to Congress of the President’s annual budget request in each year. Such report shall address the status of the Technology Innovation Program and comment on the relevant sections of the programmatic planning document and updates thereto transmitted to Congress by the Director under subsections (c) and (d) of section 23.

“(1) DEFINITIONS.—In this section—

“(1) the term ‘eligible company’ means a small-sized or medium-sized business that is incorporated in the United States and does a majority of its business in the United States, and that either—

“(A) is majority owned by citizens of the United States;
or

“(B) is owned by a parent company incorporated in another country and the Director finds that—

“(i) the company’s participation in the Technology Innovation Program would be in the economic interest of the United States, as evidenced by—

“(I) investments in the United States in research and manufacturing;

“(II) significant contributions to employment in the United States; and

“(III) agreement with respect to any technology arising from assistance provided under this section to promote the manufacture within the United States of products resulting from that technology; and

“(ii) the company is incorporated in a country which—

“(I) affords to United States-owned companies opportunities, comparable to those afforded to any other company, to participate in any joint venture similar to those receiving funding under this section;

“(II) affords to United States-owned companies local investment opportunities comparable to those afforded any other company; and

“(III) affords adequate and effective protection for intellectual property rights of United States-owned companies;

“(2) the term ‘high-risk, high-reward research’ means research that—

“(A) has the potential for yielding transformational results with far-ranging or wide-ranging implications;

“(B) addresses critical national needs within the National Institute of Standards and Technology’s areas of technical competence; and

“(C) is too novel or spans too diverse a range of disciplines to fare well in the traditional peer-review process;

“(3) the term ‘institution of higher education’ has the meaning given that term in section 101 of the Higher Education Act of 1965 (20 U.S.C. 1001);

“(4) the term ‘joint venture’ means a joint venture that—

“(A) includes either—

“(i) at least 2 separately owned for-profit companies that are both substantially involved in the project and both of which are contributing to the cost-sharing required under this section, with the lead entity of the joint venture being one of those companies that is a small-sized or medium-sized business; or

“(ii) at least 1 small-sized or medium-sized business and 1 institution of higher education or other organization, such as a national laboratory or nonprofit research institute, that are both substantially involved in the project and both of which are contributing to the cost-sharing required under this section, with the lead entity of the joint venture being either that small-

sized or medium-sized business or that institution of higher education; and

“(B) may include additional for-profit companies, institutions of higher education, and other organizations, such as national laboratories and nonprofit research institutes, that may or may not contribute non-Federal funds to the project; and

“(5) the term ‘TIP Advisory Board’ means the advisory board established under subsection (k).”

15 USC 278n
note.

(c) **TRANSITION.**—Notwithstanding the repeal made by subsection (a), the Director shall carry out section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n) as such section was in effect on the day before the date of the enactment of this Act, with respect to applications for grants under such section submitted before such date, until the earlier of—

(1) the date that the Director promulgates the regulations required under section 28(f) of the National Institute of Standards and Technology Act, as added by subsection (b); or

(2) December 31, 2007.

SEC. 3013. TECHNICAL AMENDMENTS TO THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY ACT AND OTHER TECHNICAL AMENDMENTS.

(a) **RESEARCH FELLOWSHIPS.**—Section 18 of the National Institute of Standards and Technology Act (15 U.S.C. 278g-1) is amended by striking “up to 1 per centum of the” and inserting “up to 1.5 percent of the”.

(b) **FINANCIAL AGREEMENTS CLARIFICATION.**—Section 2(b)(4) of the National Institute of Standards and Technology Act (15 U.S.C. 272(b)(4)) is amended by inserting “and grants and cooperative agreements,” after “arrangements.”

(c) **OUTDATED SPECIFICATIONS.**—

(1) **REDEFINITION OF THE METRIC SYSTEM.**—Section 3570 of the Revised Statutes of the United States (derived from section 2 of the Act of July 28, 1866, entitled “An Act to authorize the Use of the Metric System of Weights and Measures” (15 U.S.C. 205; 14 Stat. 339)) is amended to read as follows:

15 USC 205.

“SEC. 3570. METRIC SYSTEM DEFINED.

“The metric system of measurement shall be defined as the International System of Units as established in 1960, and subsequently maintained, by the General Conference of Weights and Measures, and as interpreted or modified for the United States by the Secretary of Commerce.”

(2) **REPEAL OF REDUNDANT AND OBSOLETE AUTHORITY.**—The Act of July 21, 1950, entitled, “An Act To redefine the units and establish the standards of electrical and photometric measurements.” (15 U.S.C. 223 and 224) is hereby repealed.

(3) **STANDARD TIME.**—Section 1 of the Act of March 19, 1918, (commonly known as the “Calder Act”) (15 U.S.C. 261) is amended—

(A) by inserting “(a) **IN GENERAL.**—” before “For the purpose”;

(B) by striking the second sentence and the extra period after it and inserting “Except as provided in section 3(a) of the Uniform Time Act of 1966 (15 U.S.C. 260a), the