I

112TH CONGRESS
1ST SESSION

H. R. 2749

To ensure the development and responsible stewardship of nanotechnology.

IN THE HOUSE OF REPRESENTATIVES

AUGUST 1, 2011

Mr. HONDA introduced the following bill; which was referred to the Committee on Science, Space, and Technology, and in addition to the Committees on Energy and Commerce, Ways and Means, and Homeland Security, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

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A BILL

To ensure the development and responsible stewardship of nanotechnology.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Nanotechnology Advancement and New Opportunities Act''.

TITLE I—INVESTMENT IN NANOTECHNOLOGY INDUSTRY

SEC. 101. NANOMANUFACTURING INVESTMENT PARTNERSHIP.

(a) ESTABLISHMENT.—If $100,000,000 is made available for such purposes from the private sector within 2 years after the date of enactment of this Act, the Secretary of Commerce shall establish the Nanomanufacturing Investment Partnership, in partnership with such private sector investors.

(b) PURPOSE.—The Nanomanufacturing Investment Partnership shall provide funding for precommercial nanomanufacturing research and development projects, but not for basic research projects, through funding mechanisms described in subsection (c) in a manner so as to advance the commercialization of nanomanufacturing technologies to address critical scientific and engineering needs of national importance, especially with respect to projects that would not be adequately funded or pursued by the private sector or pursuant to the 21st Century Nanotechnology Research and Development Act or other law, and to increase the commercial application of federally supported research results. To the extent that a sufficient number of viable applications have been submitted, at least 85 percent of the funding provided by the Nanomanufacturing

Investment Partnership under this section shall be provided to startup companies.

(c) FUNDING MECHANISMS.—The Nanomanufacturing Investment Partnership may provide funding through direct investment in nanomanufacturing firms, contracts, loans or loan guarantees, unsecured subordinated debt, or any other mechanism designed to advance nanomanufacturing technologies.

(d) RETURN ON INVESTMENT.—

(1) REQUIREMENT.—Each transaction through which the Nanomanufacturing Investment Partnership provides funding under subsection (c) shall provide for the return to the Nanomanufacturing Investment Partnership of fair and reasonable amounts resulting from the commercialization of technologies developed with the funding provided by the Nanomanufacturing Investment Partnership.

(2) DISTRIBUTION.—Amounts received by the Nanomanufacturing Investment Partnership pursuant to paragraph (1) shall be distributed as follows:

(A) Except as provided in subparagraph (B), amounts shall be distributed to all investors in the Nanomanufacturing Investment Partnership, including the Federal Government, in proportion to their monetary contribution to

the Nanomanufacturing Investment Partnership.

(B) After the total monetary investment of the Federal Government has been recovered under subparagraph (A), the Federal share of distributions under this paragraph shall be reduced to 7 percent of the proportional distribution under subparagraph (A), and the remaining amounts shall be distributed proportionately to all non-Federal investors.

(e) COST SHARING.—Each applicant for funding assistance from the Nanomanufacturing Investment Partnership for a project shall be required to provide a portion of the cost of the project.

(f) ADMINISTRATION.—The Secretary of Commerce, based on guidance from the Advisory Board established under subsection (i), shall make awards of funding under this section. The Advisory Board may obtain additional peer review in preparing guidance for the Secretary under this subsection.

(g) PROGRESS REPORTS.—The Nanomanufacturing Investment Partnership shall require periodic project progress reports from recipients of funding under this section.

(h) ADVISORY BOARD.—

(1) ESTABLISHMENT.—The Secretary of Commerce shall establish an Advisory Board to assist the Secretary in carrying out this section, including by establishing requirements for progress reports under subsection (g). The Advisory Board shall consist of—

(A) representatives of each investor providing more than $10,000,000 to the Nanomanufacturing Investment Partnership, whose votes shall—

(i) be distributed proportional to the size of their investment in the Nanomanufacturing Investment Partnership; and

(ii) collectively amount to 40 percent of the votes on the Advisory Board; and

(B) independent experts on nanomanufacturing and finance appointed by the President from among representatives of government, industry, and academia, whose votes shall collectively amount to 60 percent of the votes on the Advisory Board.

(2) TERMS.—Members of the Advisory Board appointed under paragraph (1)(A) shall be appointed for 3-year terms, except that the President shall make some initial appointments for terms of 1

year and some for terms of 2 years, in order to ensure continuity of membership on the Advisory Board.

(i) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary of Commerce for the Nanomanufacturing Investment Partnership $300,000,000, to remain available until expended.

SEC. 102. TAX CREDIT FOR INVESTMENT IN NANOTECHNOLOGY FIRMS.

(a) IN GENERAL.—Part IV of subchapter A of chapter 1 of the Internal Revenue Code of 1986 (relating to credits against tax) is amended by adding at the end the following new subpart:

"Subpart J—Nanotechnology Development Credit

"SEC. 54I. CREDIT FOR PURCHASE OF NANOTECHNOLOGY DEVELOPER STOCK.

"(a) ALLOWANCE OF CREDIT.—

"(1) IN GENERAL.—There shall be allowed as a credit against the tax imposed by this chapter for the taxable year an amount equal to the applicable percentage of the aggregate amount paid by the taxpayer for the purchase of qualified nanotechnology developer stock.

"(2) APPLICABLE PERCENTAGE.—For purposes of subsection (a), the applicable percentage is—

"(A) 5.25 percent for the taxable year in which the qualified nanotechnology developer stock is purchased,

"(B) 3.75 percent for the taxable year following the year in which such stock is purchased,

"(C) 3 percent for the second taxable year following the year in which such stock is purchased,

"(D) 1.5 percent for the third taxable year following the year in which such stock is purchased,

"(E) 1.5 percent for fourth taxable year following the year in which such stock is purchased, and

"(F) 0 percent for any taxable year after the fourth taxable year following the year in which such stock is purchased.

"(b) LIMITATIONS.—

"(1) AMOUNT OF INVESTMENT ELIGIBLE.—No credit shall be allowed under subsection (a) with respect to amounts paid in any taxable year for the purchase of qualified nanotechnology developer stock which is in excess of $10,000,000.

''(2) APPLICATION WITH OTHER CREDITS.—The credit allowed under subsection (a) for any taxable year shall not exceed the excess of—

''(A) the regular tax for the taxable year reduced by the sum of the credits allowable under this part (other than subpart C thereof), over

''(B) the tentative minimum tax for the taxable year.

''(c) QUALIFIED NANOTECHNOLOGY DEVELOPER STOCK.—For purposes of this section—

''(1) IN GENERAL.—The term 'qualified nanotechnology developer stock' means any common stock in a C corporation or any membership unit in a State-registered limited liability company if—

''(A) as of the date of issuance of such stock or membership unit, such corporation or company is a qualified nanotechnology developer,

''(B) such stock is acquired by the taxpayer at its original issue (directly or through an underwriter) in exchange for money or other property (not including stock), and

''(C) the proceeds of such issue are used by such issuer during the 5-year period begin-

ning on the date of issuance for the development, production, or sale of products using nanotechnology.

''(2) QUALIFIED NANOTECHNOLOGY DEVELOPER.—The term 'qualified nanotechnology developer' means any entity—

''(A) which is a C corporation or limited liability company organized under the laws of any State or of the United States,

''(B) which is a small business concern (as defined in section 3(a) of the Small Business Act), and

''(C) with respect to which a certification under subsection (d) is in effect.

''(3) NANOTECHNOLOGY.—The term 'nanotechnology' means the science of understanding and manipulating matter on an atomic or molecular scale, generally to create structures, and usually at a size smaller than 100 nanometers.

''(d) CERTIFICATION.—

''(1) IN GENERAL.—The Secretary, in consultation with the National Nanotechnology Coordination Office, shall certify an entity under this subsection if such entity demonstrates by the submission of such information as required by the Secretary that

not less than 51 percent of its activities relate to the development, production, and sale of products using nanotechnology.

''(2) REVOCATION.—The Secretary shall revoke the certification of any entity which is certified under paragraph (1) if the Secretary determines that—

''(A) the proceeds from any qualified nanotechnology developer stock issued by such entity are used during the 5-year period following such issue for a purpose other than the development, production, or sale of products using nanotechnology, or

''(B) such entity no longer meets the requirements of paragraph (1).

''(3) SUBMISSION OF INFORMATION.—The Secretary may require any entity certified under paragraph (1) to provide such information as the Secretary may require in order ensure compliance with the purposes of this section.

''(e) CARRYOVER OF UNUSED CREDIT.—

''(1) IN GENERAL.—If the credit amount allowable under subsection (a) for a taxable year exceeds the amount of the limitation under subsection (h) for such taxable year, such excess shall be allowed

as a credit carryforward for each of the 20 taxable years following the unused credit year.

''(2) RULES.—Rules similar to the rules of section 39 shall apply with respect to the credit carryforward under paragraph (1).

''(f) RECAPTURE OF CREDIT.—If—

''(1) the taxpayer fails to hold qualified nanotechnology developer stock for the 7-year period beginning on the date such stock was purchased by the taxpayer, or

''(2) during such 7-year period, the issuer of such stock ceases to be a qualified nanotechnology developer,

then notwithstanding any other provision of this subtitle, the tax imposed by this chapter on the taxpayer for the taxable year beginning in the calendar year in which such cessation occurred shall be increased by the aggregate amount of credit allowed under subsection (a) to the taxpayer with respect to such stock.

''(g) SPECIAL RULE.—For purposes of this section, rules similar to the rules of section 1202(c)(3) shall apply.

''(h) BASIS ADJUSTMENTS.—For purposes of this subtitle, if a credit is allowed under this section for the purchase of any stock—

''(1) the increase in the basis of such stock which would (but for this subsection) result from such purchase shall be reduced by the amount of the credit so allowed, and

''(2) the basis of such stock shall be increased by the amount of any increase in tax by reason of subsection (f).''.

(b) CONFORMING AMENDMENT.—Subsection (a) of section 1016 of such Code is amended by striking ''and'' at the end of paragraph (36), by striking the period at the end of paragraph (37) and inserting ''; and'', and by adding at the end the following new paragraph:

''(38) to the extent provided in section 54I(h), in the case of amounts with respect to which a credit has been allowed under section 54I or a recapture imposed under section 54I(f).''.

(c) CLERICAL AMENDMENT.—The table of subparts for part IV is amended by adding at the end the following new item:

''SUBPART J—NANOTECHNOLOGY DEVELOPMENT CREDIT''.

(d) EFFECTIVE DATE.—The amendments made by this section shall apply to amounts paid after December 31, 2010.

SEC. 103. NANOTECHNOLOGY ASSISTANCE.

(a) DEFINITIONS.—In this section:

(1) COMMERCIALIZATION.—The term ''commercialization'' means the process of converting nanotechnology research into products and processes that are used in the marketplace.

(2) DEGREE-GRANTING INSTITUTION.—The term ''degree-granting institution'' means an institution of higher education, as defined in section 101 of the Higher Education Act of 1965 (20 U.S.C. 1001), that awards an associate or baccalaureate degree.

(3) INCUBATOR.—The term ''incubator'' means an entity affiliated with or housed in a degree-granting institution that provides space and coordinated and specialized services to entrepreneurial businesses that work in the field of nanotechnology commercialization and that meets selected criteria during the businesses' startup phase, including providing services such as shared office space and services, access to equipment, access to telecommunications and technology services, flexible leases, specialized management assistance, access to financing, and other coordinated business or technical support services.

(4) NANOTECHNOLOGY.—The term ''nanotechnology'' means the science of understanding and manipulating matter on an atomic or molecular scale,

generally to create structures, and usually at a size smaller than 100 nanometers.

(5) SECRETARY.—The term ''Secretary'' means the Secretary of Commerce.

(b) GRANTS AUTHORIZED.—

(1) IN GENERAL.—The Secretary is authorized to establish within the Technology Administration of the Department of Commerce a grant program to support the establishment and development of incubators.

(2) ALLOCATION OF FUNDS.—From the amount appropriated pursuant to the authorization of appropriations in subsection (e) for a fiscal year, the Secretary—

(A) shall use 80 percent of such amount to—

(i) make awards, on a competitive basis, in amounts of up to $2,500,000, to help acquire or renovate space for incubators; and

(ii) make awards, on a competitive basis, in amounts of $50,000 to $150,000, for—

(I) developing curricula related to nanotechnology;

(II) providing services for commercialization, including preparing providing services to appropriate businesses including corporate charters, partnership agreements, and basic contracts, assistance with patents, trademarks, and copyrights, and technology acquisition services; or

(III) providing programming for entrepreneurs working in nanotechnology housed in an incubator;

(B) shall reserve 10 percent of the amount to make awards, on a competitive basis, in amounts of $50,000 to $150,000, for feasibility studies for determining the need for or siting of incubators; and

(C) shall reserve 10 percent for research regarding best practices for incubator programs, including the development of a benchmarking system based on uniform measures, and for dissemination of information regarding such practices.

(3) CONTRACTS.—The Secretary is authorized to contract with organizations with expertise in incu-

bation practices for the purposes of carrying out paragraph (2)(C).

(4) USES OF FUNDS.—Funds awarded under paragraph (2)(A)(ii) may be used for—

(A) curriculum, training, or technical assistance related to nanotechnology developed by academic faculty with participation from entrepreneurship experts;

(B) programming that contributes to a coordinated set of business assistance tools, such as developing management teams, providing workforce development, forming strategic alliances, developing capital formation networks, and developing customized plans for commercialization; and

(C) hiring staff to coordinate the activities described in subparagraph (A) or (B) or for curriculum development.

(5) RECIPIENTS.—The Secretary shall make an award—

(A) described in paragraph (2)(A) to a nonprofit entity that has a strong affiliation with a degree-granting institution and manages or provides technical assistance to the degree-granting institution's affiliated incubator, or if

no nonprofit entity manages or provides technical assistance to the incubator, to the degree-granting institution managing the incubator; and

(B) described in paragraph (2)(B) to a degree-granting institution.

(6) APPLICATIONS.—Each entity desiring assistance under this section shall submit an application to the Secretary at such time, in such manner, and accompanied by such information as the Secretary may require.

(7) SELECTION.—

(A) PRIORITY.—The Secretary shall give priority to funding applications under this subsection for activities that—

(i) will be carried out at a facility that is included in the Centers and Networks of Excellence of the research and development program known as the National Nanotechnology Initiative;

(ii) provide strong educational opportunities to students in fields related to nanotechnology and commercialization; and

(iii) require significant collaboration between businesses and academia.

(B) CONSIDERATION.—The Secretary may give consideration to funding applications under this subsection that support—

(i) the building of new incubators;

(ii) incubators that work with faculty entrepreneurs or university-based research;

(iii) incubators that are located in areas with an established venture capital industry and other industry support, including leadership and legal support, for commercialization; or

(iv) incubators that have secured additional private funding.

(c) NANOTECHNOLOGY STARTUP ADVISORY COUNCIL.—

(1) ESTABLISHMENT.—The Secretary shall establish a Nanotechnology Startup Advisory Council composed of industry leaders, business and marketing professionals, venture capitalists, attorneys, and nanotechnology researchers.

(2) PURPOSE.—The purpose of the Nanotechnology Startup Advisory Council is to ensure that emerging nanotechnology companies create a sound foundation for new business.

(d) REPORT.—Not later than September 30 of the third fiscal year during which assistance is provided under this section, the Secretary shall prepare and submit to Congress a report that—

(1) describes the most effective or innovative additions to curricula related to nanotechnology that were developed with such assistance;

(2) contains a comparison of the success of nanotechnology companies developed in incubators that received such assistance with the success of other nanotechnology companies;

(3) describes any factors leading to success of companies that were developed in incubators;

(4) recommends the best role for degree-granting institutions in commercialization; and

(5) contains a comparison of academic-affiliated incubators of specific missions and ages that received assistance under this section with other incubators with similar missions and ages.

(e) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this section $25,000,000 for each of the fiscal years 2012, 2013, and 2014.

TITLE II—RESEARCH AND DEVELOPMENT DIRECTIONS

SEC. 201. NANOSCALE SCIENCE AND ENGINEERING CENTER.

Section 9 of the 21st Century Nanotechnology Research and Development Act (15 U.S.C. 7508) is amended—

(1) by redesignating subsection (c) as subsection (d); and

(2) by inserting after subsection (b) the following new subsection:

''(c) NANOSCALE SCIENCE AND ENGINEERING CENTER.—

''(1) ESTABLISHMENT.—The National Science Foundation shall provide for the establishment, on a merit reviewed and competitive basis, of a center for the development of computer aided design tools for nanotechnology applications.

''(2) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the National Science Foundation for carrying out this subsection $10,000,000.''.

SEC. 202. FEDERAL PROGRAMS.

The 21st Century Nanotechnology Research and Development Act (15 U.S.C. 7501 et seq.) is amended—

(1) by redesignating sections 9 and 10 as sections 12 and 13, respectively;

(2) in section 8, by adding at the end the following new subsection:

''(c) RESEARCH PROGRAM.—

''(1) ESTABLISHMENT.—The Secretary of Energy shall provide for the establishment, on a merit reviewed and competitive basis, of a grant program for nanotechnology research to address the need for clean, cheap, renewable energy.

''(2) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary of Energy for carrying out this subsection $30,000,000 for each fiscal year.''; and

(3) by inserting after section 8 the following new sections:

''SEC. 9. ENVIRONMENTAL PROTECTION AGENCY PROGRAMS.

''(a) ESTABLISHMENT.—The Administrator of the Environmental Protection Agency shall provide for the establishment, on a merit reviewed and competitive basis, of a grant program for nanotechnology research to address technologies for the remediation of pollution and other environmental protection technologies.

''(b) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Administrator of the Environmental Protection Agency for carrying out this section $30,000,000 for each fiscal year.

"SEC. 10. DEPARTMENT OF HOMELAND SECURITY PROGRAMS.

''(a) ESTABLISHMENT.—The Secretary of Homeland Security shall provide for the establishment, on a merit reviewed and competitive basis, of a grant program for nanotechnology research to address the need for sensors and other materials related to homeland security needs.

''(b) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary of Homeland Security for carrying out this section $30,000,000 for each fiscal year.

"SEC. 11. DEPARTMENT OF HEALTH AND HUMAN SERVICES PROGRAMS.

''(a) ESTABLISHMENT.—The Secretary of Health and Human Services shall provide for the establishment, on a merit reviewed and competitive basis, of a grant program for nanotechnology research to address the health related applications of nanotechnology.

''(b) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary of

Health and Human Services for carrying out this section $30,000,000 for each fiscal year.''.

TITLE III—ENVIRONMENTAL NANOTECHNOLOGY APPLICATIONS

SEC. 301. NANOTECHNOLOGY RESEARCH STRATEGY.

Not later than 1 year after the date of enactment of this Act, the Director of the National Nanotechnology Coordination Office shall, after consultation with appropriate Federal agencies and industry, transmit to the Congress a report containing a nanotechnology research strategy that establishes priorities for the Federal Government and industry that will ensure the development and responsible stewardship of nanotechnology. The report shall include recommendations regarding the funding levels the Director anticipates the agencies charged with implementing this research strategy will require.

TITLE IV—EDUCATION

SEC. 401. CREDIT FOR NANOTECHNOLOGY EDUCATION AND TRAINING PROGRAM EXPENSES.

(a) IN GENERAL.—Subpart B of part IV of subchapter A of chapter 1 of the Internal Revenue Code of 1986 is amended by adding at the end the following:

"SEC. 30E. NANOTECHNOLOGY EDUCATION AND TRAINING PROGRAM EXPENSES.

"(a) ALLOWANCE OF CREDIT.—

"(1) IN GENERAL.—There shall be allowed as a credit against the tax imposed by this chapter for the taxable year an amount equal to 50 percent of nanotechnology education and training program expenses paid or incurred by the taxpayer for the benefit of—

"(A) in the case of a taxpayer engaged in a trade or business, an employee of the taxpayer, or

"(B) in the case of a taxpayer who is an individual not so engaged, such individual.

"(2) COORDINATION OF CREDITS.—Credit shall be allowable to the employer with respect to an employee only to the extent that the employee assigns some or all of the limitation applicable to such employee under subsection (b) to such employer.

"(b) LIMITATIONS.—

"(1) IN GENERAL.—The amount of expenses with respect to any individual which may be taken into account under subsection (a) for the taxable year shall not exceed $4,000.

"(2) INCREASE IN CREDIT AMOUNT FOR PARTICIPATION IN CERTAIN PROGRAMS AND FOR CER-

TAIN INDIVIDUALS.—Paragraph (1) shall be applied by substituting '$5,000' for '$4,000' in the case of expenses—

"(A) with respect to a program operated—

"(i) in an empowerment zone or enterprise community designated under part I of subchapter U or a renewal community designated under part I of subchapter X,

"(ii) in a school district in which at least 50 percent of the students attending schools in such district are eligible for free or reduced-cost lunches under the school lunch program established under the Richard B. Russell National School Lunch Act,

"(iii) in an area designated as a disaster area by the Secretary of Agriculture under section 321 of the Consolidated Farm and Rural Development Act or by the President under the Robert T. Stafford Disaster Relief and Emergency Assistance Act in the taxable year or the 4 preceding taxable years,

"(iv) in a rural enterprise community designated under section 766 of the Agriculture, Rural Development, Food and

Drug Administration, and Related Agencies Appropriations Act, 1999 (112 Stat. 2681–37),

''(v) in an area designated by the Secretary of Agriculture as a Rural Economic Area Partnership Zone,

''(vi) in an area over which an Indian tribal government (as defined in section 7701(a)(40)) has jurisdiction, or

''(vii) by an employer who has 200 or fewer employees for each business day in each of 20 or more calendar weeks in the current or preceding calendar year, or

''(B) in the case of an individual with a disability.

''(c) NANOTECHNOLOGY EDUCATION AND TRAINING PROGRAM EXPENSES.—For purposes of this section—

''(1) IN GENERAL.—The term 'nanotechnology education and training program expenses' means expenses paid or incurred by reason of the participation of the taxpayer (or any employee of the taxpayer) in any nanotechnology education and training program. Such expenses shall include expenses paid in connection with—

''(A) course work,

"(B) certification testing,

"(C) programs carried out under the Act of August 16, 1937 (50 Stat. 664, chapter 663; 29 U.S.C. 50 et seq.) which are registered by the Department of Labor, and

"(D) other expenses that are essential to assessing skill acquisition.

"(2) NANOTECHNOLOGY EDUCATION AND TRAINING PROGRAM.—The term 'nanotechnology education and training program' means a training program in nanotechnology workplace disciplines or other skill sets which is provided in the United States by an accredited college, university, private career school, postsecondary educational institution, a commercial nanotechnology provider, or an employer-owned nanotechnology training organization.

"(3) COMMERCIAL NANOTECHNOLOGY TRAINING PROVIDER.—The term 'commercial nanotechnology training provider' means a private sector organization providing an nanotechnology education and training program.

"(4) EMPLOYER-OWNED NANOTECHNOLOGY TRAINING ORGANIZATION.—The term 'employer-owned nanotechnology training organization' means a private sector organization that provides nanotech-

nology training to its employees using internal training development and delivery personnel. The training programs must use industry-recognized training disciplines and evaluation methods, comparable to institutional and commercial training providers.

''(d) DENIAL OF DOUBLE BENEFIT.—

''(1) DISALLOWANCE OF OTHER CREDITS AND DEDUCTIONS.—No deduction or credit shall be allowed under any other provision of this chapter for expenses taken into account in determining the credit under this section.

''(2) REDUCTION FOR HOPE AND LIFETIME LEARNING CREDITS.—The amount taken into account under subsection (a) shall be reduced by the nanotechnology education and training program expenses taken into account in determining the credits under section 25A.

''(e) CERTAIN RULES MADE APPLICABLE.—For purposes of this section, rules similar to the rules of section 45A(e)(2) and subsections (c), (d), and (e) of section 52 shall apply.

''(f) APPLICATION WITH OTHER CREDITS.—The credit allowed by subsection (a) for any taxable year shall not exceed the excess (if any) of—

''(1) the regular tax for the taxable year reduced by the sum of the credits allowable under the subpart A and the previous sections of this subpart, over

''(2) the tentative minimum tax for the taxable year.''.

(b) CLERICAL AMENDMENT.—The table of sections for subpart B of part IV of subchapter A of chapter 1 of the Internal Revenue Code of 1986 is amended by adding at the end the following:

''Sec. 30E. Nanotechnology education and training program expenses.''.

(c) EFFECTIVE DATE.—The amendments made by this section shall apply to amounts paid or incurred in taxable years beginning after December 31, 2010.

SEC. 402. ELIGIBLE EDUCATIONAL INSTITUTION.

(a) IN GENERAL.—Section 25A(f)(2) of the Internal Revenue Code of 1986 (relating to eligible educational institution) is amended to read as follows:

''(2) ELIGIBLE EDUCATIONAL INSTITUTION.—The term 'eligible educational institution' means—

''(A) an institution—

''(i) which is described in section 101(b) or 102(a) of the Higher Education Act of 1965, and

''(ii) which is eligible to participate in a program under title IV of such Act, or

''(B) a commercial nanotechnology training provider (as defined in section 30E(c)(3)).''.

(b) CONFORMING AMENDMENT.—The second sentence of section 221(d)(2) of the Internal Revenue Code of 1986 is amended by striking ''section 25A(f)(2)'' and inserting ''section 25A(f)(2)(A)''.

(c) EFFECTIVE DATE.—The amendments made by this section shall apply to taxable years beginning after December 31, 2010.

SEC. 403. CURRICULUM DEVELOPMENT PROGRAM.

(a) ESTABLISHMENT.—The National Science Foundation shall provide for the establishment, on a merit reviewed and competitive basis, of a grant program for the development of curriculum materials for interdisciplinary nanotechnology courses at institutions of higher education.

(b) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the National Science Foundation for carrying out this section $15,000,000 for each of the fiscal years 2012 through 2015.

SEC. 404. TRAINING PARTNERSHIPS.

The National Science Foundation, through its Advanced Technological Education program, shall establish a program to encourage manufacturing companies to enter into partnerships with occupational training centers for

the development of training to support nanotechnology manufacturing.

TITLE V—PUBLIC OUTREACH

SEC. 501. INTERACTION BETWEEN SCIENTISTS AND ENGINEERS.

Not later than 6 months after the date of enactment of this Act, the Secretary of Energy shall transmit to the Congress a report containing a strategy for increasing interaction on nanotechnology issues between scientists and engineers at the Department of Energy's National Laboratories and in the informal science education community, to enable researchers to use their expertise to assist in the development of appropriate nanotechnology exhibitions for school age children and the general public.

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