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107TH CONGRESS
2D SESSION

H. R. 5074

To authorize appropriations for the National Institute of Standards and Technology for fiscal years 2003, 2004, and 2005, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

JULY 9, 2002

Mr. BARCIA (for himself, Mr. UDALL of Colorado, Mr. HALL of Texas, Mr. WEINER, Mr. HONDA, Ms. RIVERS, Mr. LARSON of Connecticut, Mr. ISRAEL, Mr. MATHESON, Ms. WOOLSEY, Mr. BACA, Ms. EDDIE BERNICE JOHNSON of Texas, Mr. COSTELLO, and Ms. LOFGREN) introduced the following bill; which was referred to the Committee on Science

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A BILL

To authorize appropriations for the National Institute of Standards and Technology for fiscal years 2003, 2004, and 2005, and for other purposes.

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 ''Technology Administration and National Institute of Standards and Technology Act of 2002''.

TITLE I—AUTHORIZATION OF APPROPRIATIONS

SEC. 101. OFFICE OF THE UNDER SECRETARY FOR TECHNOLOGY.

There are authorized to be appropriated to the Secretary of Commerce for the activities of the Under Secretary for Technology and the Office of Technology Policy—

(1) $8,147,000 for fiscal year 2003;

(2) $8,432,000 for fiscal year 2004; and

(3) $8,727,000 for fiscal year 2005.

SEC. 102. SCIENTIFIC AND TECHNICAL RESEARCH AND SERVICES.

(a) LABORATORY ACTIVITIES.—There are authorized to be appropriated to the Secretary of Commerce for the Scientific and Technical Research and Services laboratory activities of the National Institute of Standards and Technology—

(1) $395,810,000 for fiscal year 2003, of which—

(A) $42,731,000 shall be for Electronics and Electrical Engineering;

(B) $21,128,000 shall be for Manufacturing Engineering;

(C) $39,992,000 shall be for Chemical Science and Technology;

(D) $38,042,000 shall be for Physics;

(E) $65,173,000 shall be for Material Science and Engineering;

(F) $30,593,000 shall be for Building and Fire Research;

(G) $54,257,000 shall be for Computer Science and Applied Mathematics;

(H) $18,313,000 shall be for Technical Assistance; and

(I) $85,581,000 shall be for Research Support;

(2) $379,018,000 for fiscal year 2004; and

(3) $385,654,000 for fiscal year 2005.

(b) MALCOLM BALDRIGE NATIONAL QUALITY AWARD PROGRAM.—There are authorized to be appropriated to the Secretary of Commerce for the Malcolm Baldrige National Quality Award program under section 17 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3711a)—

(1) $5,481,000 for fiscal year 2003;

(2) $5,673,000 for fiscal year 2004; and

(3) $5,871,000 for fiscal year 2005.

(c) CONSTRUCTION AND MAINTENANCE.—There are authorized to be appropriated to the Secretary of Commerce for construction and maintenance of facilities of the National Institute of Standards and Technology—

(1) $64,494,000 for fiscal year 2003, of which—

(A) $17,300,000 shall be for construction and design of the central utility plant and primary electrical service at the National Institute of Standards and Technology facility in Boulder, Colorado;

(B) $15,000,000 shall be for completing fit-up of the Advanced Metrology Laboratory at Gaithersburg, Maryland;

(C) $10,000,000 shall be for upgrading the Large Fire Facility at Gaithersburg, Maryland; and

(D) $22,194,000 shall be for safety, capacity, maintenance, and major repairs;

(2) $59,171,000 for fiscal year 2004, of which—

(A) $36,200,000 shall be for construction of the central utility plant, building 4 renovation, and building 1 renovation design at the

National Institute of Standards and Technology facility in Boulder, Colorado; and

(B) $22,971,000 shall be for safety, capacity, maintenance, and major repairs; and

(3) $40,548,000 for fiscal year 2005, of which—

(A) $16,800,000 shall be for building 1 renovation and the Joint Institute for Laboratory Astrophysics addition at the National Institute of Standards and Technology facilities in Boulder, Colorado; and

(B) $23,748,000 shall be for safety, capacity, maintenance, and major repairs.

SEC. 103. INDUSTRIAL TECHNOLOGY SERVICES.

There are authorized to be appropriated to the Secretary of Commerce for Industrial Technology Services activities of the National Institute of Standards and Technology—

(1) $315,000,000 for fiscal year 2003, of which—

(A) $205,200,000 shall be for the Advanced Technology Program under section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n), of which $60,700,000 shall be for new awards; and

(B) $110,000,000 shall be for the Manufacturing Extension Partnership program under sections 25 and 26 of the National Institute of Standards and Technology Act (15 U.S.C. 278k and 278l);

(2) $331,750,000 for fiscal year 2004, of which—

(A) $217,900,000 shall be for the Advanced Technology Program under section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n), of which $60,700,000 shall be for new awards; and

(B) $113,850,000 shall be for the Manufacturing Extension Partnership program under sections 25 and 26 of the National Institute of Standards and Technology Act (15 U.S.C. 278k and 278l); and

(3) $347,335,000 for fiscal year 2005, of which—

(A) $229,500,000 shall be for the Advanced Technology Program under section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n), of which $60,700,000 shall be for new awards; and

(B) $117,835,000 shall be for the Manufacturing Extension Partnership program under sections 25 and 26 of the National Institute of Standards and Technology Act (15 U.S.C. 278k and 278l).

TITLE II—TECHNOLOGY POLICY REFORMS

SEC. 201. NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY ACT AMENDMENTS.

(a) UNIVERSITY LEADERSHIP OF JOINT VENTURES.—

(1) JOINT VENTURE AID.—Section 28(b)(1) of the National Institute of Standards and Technology Act (15 U.S.C. 278n(b)(1)) is amended by striking ''industry-led United States'' and all that follows through ''organizations)'' and inserting ''joint ventures''.

(2) DEFINITION.—Section 28(j)(1) of the National Institute of Standards and Technology Act (15 U.S.C. 278n(j)(1)) is amended by striking ''two or more persons'' and inserting ''a combination of two or more persons (which shall include at least two companies, each of which participates substantially in the joint venture, and may include one or

more institutions of higher education or nonprofit organizations)''.

(b) INTELLECTUAL PROPERTY RIGHTS OWNERSHIP.—Section 28(d)(11)(A) of the National Institute of Standards and Technology Act (15 U.S.C. 278n(d)(11)(A)) is amended to read as follows:

''(11)(A) 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 practiced 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.''.

(c) BARRIERS TO PRODUCT DEVELOPMENT.—Section 28(d) of the National Institute of Standards and

Technology Act (15 U.S.C. 278n(d)) is amended by adding at the end the following new paragraph:

''(12) No contract or award may be made for any project unless such project may remove a scientific or technological barrier to product development.''.

(d) PROJECT REVIEW AND EVALUATION.—Section 28(g) of the National Institute of Standards and Technology Act (15 U.S.C. 278n(g)) is amended to read as follows:

''(g) INDUSTRY AND PEER REVIEW OF PROPOSALS.—(1) In order to analyze the need for or the value of any proposal made by a joint venture or company requesting the Secretary's assistance under this section, or to monitor the progress of any project which receives funds under this section, the Secretary, the Under Secretary of Commerce for Technology, and the Director may, notwithstanding any other provision of law, meet with such industry or other expert sources, without a proprietary or financial interest in proposals being evaluated, as they consider useful and appropriate.

''(2) In order to better assess whether specific innovations to be pursued are being adequately supported by the private sector, the Director shall conduct a study of, and thereafter monitor, whether the Secretary, the Under Sec-

retary of Commerce for Technology, and the Director could benefit from advice and information from additional industry and other expert sources, without a proprietary or financial interest in proposals being evaluated. Not later than one year after the date of the enactment of Technology Administration and National Institute of Standards and Technology Act of 2002, and biennially thereafter, the Director shall transmit to the Congress a report containing the results of the study and monitoring under this paragraph.''.

SEC. 202. MANUFACTURING EXTENSION PARTNERSHIP PROGRAM REPORT.

Section 25 of the National Institute of Standards and Technology Act (15 U.S.C. 278k) is amended by adding at the end the following new subsection:

''(e) Not later than January 20 of each year, the Director shall transmit to the Congress a 3-year programmatic planning document for the Manufacturing Extension Partnership program. This document shall be developed in cooperation with the Modernization Forum.''.

SEC. 203. ANNUAL REVIEW OF THE OFFICE OF THE UNDER SECRETARY FOR TECHNOLOGY.

Section 10(h) of the National Institute of Standards and Technology Act (15 U.S.C. 278(h)) is amended—

(1) by redesignating paragraph (2) as paragraph (3); and

(2) by inserting after paragraph (1) the following new paragraph:

''(2) The report required by paragraph (1) shall also address policy issues or matters which affect the Technology Administration, including the Office of Technology Policy and the Office of Space Commercialization, as well as assess the effectiveness and the utility Technology Administration's programs, including reports issued by the Office of Technology Policy and the Office of Space Commercialization.''.

SEC. 204. STUDIES BY THE NATIONAL RESEARCH COUNCIL.

Section 24 of the National Institute of Standards and Technology Act (15 U.S.C. 278j) is amended—

(1) by striking ''The Director may'' through ''assist the'' and inserting ''The Under Secretary of Technology and the Director may periodically contract with the National Research Council for advice and studies to assist the Technology Administration and the''; and

(2) in paragraph (2) by inserting ''the Technology Administration and'' after ''potential activities of''.

SEC. 205. MALCOLM BALDRIGE QUALITY CRITERIA ASSESSMENTS.

Not later than 6 months after the date of the enactment of this Act, the Under Secretary of Commerce for Technology shall transmit to the Committee on Science of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate an assessment of the Technology Administration and the National Institute of Standards and Technology according to the criteria of the Malcolm Baldrige National Quality Award program.

TITLE III—ENTERPRISE INTEGRATION

SEC. 301. SHORT TITLE.

This title may be cited as the ''Enterprise Integration Act of 2002''.

SEC. 302. FINDINGS.

The Congress makes the following findings:

(1) Over 90 percent of United States companies engaged in manufacturing are small and medium-sized businesses.

(2) Most of these manufacturers produce goods for assemblage into products of large companies.

(3) The emergence of the World Wide Web and the promulgation of international standards for product data exchange greatly accelerated the move-

ment toward electronically integrated supply chains during the last half of the 1990's.

(4) A major Wall Street firm recently estimated that the adoption of electronic commerce-based supply chains in various manufacturing industries can reduce business costs from 10 percent to 40 percent.

(5) European and Asian countries are investing heavily in electronic enterprise standards development, and in preparing their smaller manufacturers to do business in the new environment. European efforts are well advanced in the aerospace, automotive, and shipbuilding industries and are beginning in other industries including home building, furniture manufacturing, textiles, and apparel.

(6) If United States manufacturers are to remain competitive, they must match their overseas competition by making sure that standards, including application protocols, developed for electronic business in their industry worldwide reflect their needs and the needs of their customers and suppliers.

(7) Many American small and medium-sized manufacturers run the risk of losing their largest customers during the first half of this decade unless they adopt computer aided design, engineering, and

manufacturing systems in their work places and learn how to participate with customers and suppliers in integrated electronic enterprises.

(8) Application protocols are very complex standards, often running thousands of pages, and require the cooperation of entire industries for their development.

(9) The National Institute of Standards and Technology, because of the electronic commerce expertise in its laboratories and quality program, its long history of working cooperatively with manufacturers, and the nationwide reach of its manufacturing extension program, is in a unique position to help United States large and smaller manufacturers alike in their responses to this challenge.

(10) It is, therefore, in the national interest for the National Institute of Standards and Technology to accelerate its efforts—

(A) in helping major manufacturing industries develop standards and enterprise integration processes that are necessary to increase efficiency and lower costs; and

(B) in making sure that every small or medium-sized manufacturer has the option of upgrading its manufacturing capabilities to the

point where it can be part of an electronic supply chain of a major manufacturing industry.

SEC. 303. ENTERPRISE INTEGRATION INITIATIVE.

(a) ESTABLISHMENT.—The Director shall establish an initiative for advancing enterprise integration within the United States. In carrying out this section, the Director shall involve, as appropriate, the various units of the National Institute of Standards and Technology, including the National Institute of Standards and Technology laboratories, the Manufacturing Extension Partnership program established under sections 25 and 26 of the National Institute of Standards and Technology Act (15 U.S.C. 278k and 278l), and the Malcolm Baldrige National Quality Program. This initiative shall begin with product data management and build upon ongoing efforts of the National Institute of Standards and Technology and of the private sector, shall involve consortia that include government and industry, and shall be designed to permit enterprise integration in each United States major manufacturing industry at the earliest possible date.

(b) ASSESSMENT.—For each major manufacturing industry, the Director may work with industry representatives and organizations currently engaged in enterprise integration activities, and others as appropriate, to identify all enterprise integration standardization and implementa-

tion activities underway in the United States and abroad that impact that industry and to assess the current state of enterprise integration within that industry. The Director may assist such industry representatives and organizations in the development of roadmaps that identify the remaining steps needed to ensure that the standards, application protocols, and support for suppliers are in place to permit supply chains within the industry to operate as an integrated electronic enterprise. The roadmaps shall use voluntary consensus standards where possible. Working with such industry representatives and organizations to ensure that their needs are met, the National Institute of Standards and Technology shall develop milestones and anticipated costs by fiscal year for activities of the Federal Government in support of the roadmaps developed, and shall make those milestones and anticipated costs known to industry.

(c) PLANS AND REPORTS.—Within 90 days after the date of the enactment of this Act, the Director shall report to the Congress on efforts made to publicize the availability of assistance under this section and on anticipated related activities of the National Institute of Standards and Technology for the then current fiscal year. Within 180 days after the date of the enactment of this Act, and annually thereafter, the Director shall submit to the Con-

gress a report on the National Institute of Standards and Technology's activities under subsection (b).

(d) AUTHORIZED ACTIVITIES.—In order to carry out this title and the plans prepared under subsection (c), the Director may—

(1) work with companies and trade associations within a major manufacturing industry to raise awareness of enterprise integration activities in the United States and abroad, including convening meetings;

(2) work with an industry on the development of enterprise integration roadmaps;

(3) support the development, testing, promulgation, and adoption of standards, including application protocols;

(4) support the development, promulgation, integration, and upgrading of standards related to enterprise integration;

(5) support pilot projects that include small and medium-sized businesses for new standards and enterprise integration;

(6) ensure the training and regular upgrading of skills of Manufacturing Extension Program employees;

(7) develop tool kits and employee training materials and take other steps necessary to permit small and medium-sized businesses to participate in an integrated enterprise; and

(8) set up legal and financial mechanisms to permit groups of Manufacturing Extension Program centers to work collectively on modernizing and integrating a company's or industry's supply chain.

SEC. 304. DEFINITIONS.

For purposes of this title—

(1) the term ''automotive'' means land-based engine-powered vehicles including automobiles, trucks, busses, trains, defense vehicles, farm equipment, and motorcycles;

(2) the term ''Director'' means the Director of the National Institute of Standards and Technology;

(3) the term ''enterprise integration'' means the electronic linkage of manufacturers, assemblers, suppliers, and customers to enable the electronic exchange of product, manufacturing, and other business data among all partners in a product supply chain, and such term includes related application protocols and other related standards;

(4) the term ''major manufacturing industry'' includes the aerospace, automotive, electronics, ship-

building, construction, home building, furniture, textile, and apparel industries and such other industries as the Director designates; and

(5) the term ''National Institute of Standards and Technology laboratories'' means those institutes of the National Institute of Standards and Technology with expertise in electronic commerce, including the Manufacturing Engineering Laboratory, the Building and Fire Research Laboratory, and the Information Technology Laboratory.

SEC. 305. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to the Director to carry out functions under this title $10,000,000 for fiscal year 2002, $15,000,000 for fiscal year 2003, and such sums as may be necessary for subsequent fiscal years.

TITLE IV—TESTS FOR BANNED PERFORMANCE-ENHANCING SUBSTANCES

SEC. 401. SHORT TITLE.

This title may be cited as the ''Fair Play in Sport Act of 2002''.

SEC. 402. FINDINGS.

The Congress finds that—

(1) the National Commission on Sports and Substance Abuse, sponsored by the National Center on Addiction and Substance Abuse at Columbia University, found that most parties involved in Olympic sports agree that doping (the use of banned performance-enhancing substances) is a serious problem for the Olympics and must be eliminated to preserve the integrity of the competition;

(2) the use of performance-enhancing substances in sports threatens the health of our athletes, the integrity and meaning of sport, and the health and ethical values of our children;

(3) there is currently no set of long-term comprehensive studies on the effects of performance-enhancing substances;

(4) according to the Commission referred to in paragraph (1), some problems which must be solved to enable a fair and effective drug testing program include developing highly accurate tests for performance-enhancing substances in the body and establishing and accrediting testing laboratories around the world;

(5) the United States Government has recognized the United States Anti-Doping Agency as the official anti-doping agency for Olympic, Pan Amer-

ican, and Paralympic sport in the United States, and provides significant financial support to such Agency; and

(6) the National Institute of Standards and Technology is the Federal Government's premier laboratory for the development of standards and testing methodology as well as for developing rigorous testing laboratory accreditation procedures.

SEC. 403. RESEARCH FOR TESTING OF PERFORMANCE-ENHANCING SUBSTANCES.

The National Institute of Standards and Technology, in consultation and cooperation with the United States Anti-Doping Agency, shall establish a research program to develop and improve the reliability, validity, and cost-effectiveness of testing for performance-enhancing substances the use of which is prohibited in the Olympic Games. Such research program shall—

(1) pay particular attention to the development and improvement of tests for the use of steroids, human growth hormone, and insulin-like growth factor;

(2) establish methods of ensuring that the ability to test for the use of newly banned performance-enhancing substances is maintained; and

(3) develop standard reference materials to ensure the accuracy of measurements.

Development of the agenda for the research program established under this section should be on the basis of the best available technology, regardless of the type of sample specimen used. All research projects should be evaluated on a peer-reviewed basis.

SEC. 404. ACCREDITATION PROCEDURES FOR TESTING LABORATORIES.

The National Institute of Standards and Technology shall provide review and assessment assistance to the United States Anti-Doping Agency with respect to the laboratory accreditation process and testing procedures delineated in the International Olympic Committee's Olympic Movement Anti-Doping Code. Such assistance shall include—

(1) procedures for accreditation of laboratories;

(2) sampling procedures in doping controls; and

(3) laboratory analysis procedures.

The National Institute of Standards and Technology shall limit its assistance under this section to areas where it has demonstrated technical competence.

SEC. 405. RESEARCH ON LONG-TERM CONSEQUENCES OF USE OF PERFORMANCE-ENHANCING SUBSTANCES.

The National Institute of Standards and Technology, in consultation and cooperation with the United States Anti-Doping Agency, shall establish a research program to determine the long-term consequences of use of performance-enhancing substances. Development of the research agenda should place the highest priority on the most potentially harmful and the most widely used performance-enhancing substances. Priorities for research shall include—

(1) the health effects of consumption of performance-enhancing substances; and

(2) the efficacy and long-term effects of the use of steroids, including precursor substances.

Population studies under this section should not be limited to elite athletes but should include adolescent athletes as well.

SEC. 406. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to the National Institute of Standards and Technology—

(1) for carrying out sections 403 and 404, $5,000,000 for each of the fiscal years 2003 through 2007; and

(2) for carrying out section 405, $2,000,000 for each of the fiscal years 2003 through 2007.

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