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HOUSE OF REPRESENTATIVES

REPORT
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FEDERAL TECHNOLOGY TRANSFER ACT OF 1986

OCTOBER 2, 1986.—Ordered to be printed

Mr. FUQUA, from the committee of conference, submitted the following

CONFERENCE REPORT

[To accompany H.R. 3773]

The committee of conference on the disagreeing votes of the two Houses on the amendments of the Senate to the bill (H.R. 3773) to amend the Stevenson-Wydler Technology Innovation Act of 1980 to promote technology transfer by authorizing Government-operated laboratories to enter into cooperative research agreements and by establishing a Federal Laboratory Consortium for Technology Transfer within the National Science Foundation, and for other purposes, having met, after full and free conference, have agreed to recommend and do recommend to their respective Houses as follows:

That the House recede from its disagreement to the amendment of the Senate to the text of the bill and agree to the same with an amendment as follows:

In lieu of the matter proposed to be inserted by the Senate amendment insert the following:

SECTION 1. SHORT TITLE.

This Act may be cited as the "Federal Technology Transfer Act of 1986".

SEC. 2. COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS.

The Stevenson-Wydler Technology Innovation Act of 1980 is amended by redesignating sections 12 through 15 as sections 16 through 19, and by inserting immediately after section 11 the following:

"SEC. 12. COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS.

"(a) GENERAL AUTHORITY.—Each Federal agency may permit the director of any of its Government-operated Federal laboratories—

"(1) to enter into cooperative research and development agreements on behalf of such agency (subject to subsection (c) of this

section) with other Federal agencies; units of State or local government; industrial organizations (including corporations, partnerships, and limited partnerships, and industrial development organizations); public and private foundations; nonprofit organizations (including universities); or other persons (including licensees of inventions owned by the Federal agency); and

"(2) to negotiate licensing agreements under section 207 of title 35, United States Code, or under other authorities for Government-owned inventions made at the laboratory and other inventions of Federal employees that may be voluntarily assigned to the Government.

"(b) ENUMERATED AUTHORITY.—Under agreements entered into pursuant to subsection (a)(1), a Government-operated Federal laboratory may (subject to subsection (c) of this section)—

"(1) accept, retain, and use funds, personnel, services, and property from collaborating parties and provide personnel, services, and property to collaborating parties;

"(2) grant or agree to grant in advance, to a collaborating party, patent licenses or assignments, or options thereto, in any invention made in whole or in part by a Federal employee under the agreement, retaining a nonexclusive, nontransferrable, irrevocable, paid-up license to practice the invention or have the invention practiced throughout the world by or on behalf of the Government and such other rights as the Federal laboratory deems appropriate; and

"(3) waive, subject to reservation by the Government of a nonexclusive, irrevocable, paid-up license to practice the invention or have the invention practiced throughout the world by or on behalf of the Government, in advance, in whole or in part, any right of ownership which the Federal Government may have to any subject invention made under the agreement by a collaborating party or employee of a collaborating party; and

"(4) to the extent consistent with any applicable agency requirements and standards of conduct, permit employees or former employees of the laboratory to participate in efforts to commercialize inventions they made while in the service of the United States.

"(c) CONTRACT CONSIDERATIONS.—(1) A Federal agency may issue regulations on suitable procedures for implementing the provisions of this section; however, implementation of this section shall not be delayed until issuance of such regulations.

"(2) The agency is permitting a Federal laboratory to enter into agreements under this section shall be guided by the purposes of this Act.

"(3)(A) Any agency using the authority given it under subsection (a) shall review employee standards of conduct for resolving potential conflicts of interest to make sure they adequately establish guidelines for situations likely to arise through the use of this authority, including but not limited to cases where present or former employees or their partners negotiate licenses or assignments of titles to inventions or negotiate cooperative research and development agreements with Federal agencies (including the agency with which the employee involved is or was formerly employed).

"(B) If, in implementing subparagraph (A), an agency is unable to resolve potential conflicts of interest within its current statutory framework, it shall propose necessary statutory changes to be forwarded to its authorizing committees in Congress.

"(4) The laboratory director in deciding what cooperative research and development agreements to enter into shall—

"(A) give special consideration to small business firms, and consortia involving small business firms; and

"(B) give preference to business units located in the United States which agree that products embodying inventions made under the cooperative research and development agreement or produced through the use of such inventions will be manufactured substantially in the United States and, in the case of any industrial organization or other person subject to the control of a foreign company or government, as appropriate, take into consideration whether or not such foreign government permits United States agencies, organizations, or other persons to enter into cooperative research and development agreements and licensing agreements.

"(5)(A) If the head of the agency or his designee desires an opportunity to disapprove or require the modification of any such agreement, the agreement shall provide a 30-day period within which such action must be taken beginning on the date the agreement is presented to him or her by the head of the laboratory concerned.

"(B) In any case in which the head of an agency or his designee disapproves or requires the modification of an agreement presented under this section, the head of the agency or such designee shall transmit a written explanation of such disapproval or modification to the head of the laboratory concerned.

"(6) Each agency shall maintain a record of all agreements entered into under this section.

"(d) DEFINITION.—As used in this section—

"(1) the term 'cooperative research and development agreement' means any agreement between one or more Federal laboratories and one or more non-Federal parties under which the Government, through its laboratories, provides personnel, services, facilities, equipment, or other resources with or without reimbursement (but not funds to non-Federal parties) and the non-Federal parties provide funds, personnel, services, facilities, equipment, or other resources toward the conduct of specified research or development efforts which are consistent with the missions of the laboratory; except that such term does not include a procurement contract or cooperative agreement as those terms are used in sections 6303, 6304, and 6305 of title 31, United States Code; and

"(2) the term 'laboratory' means a facility or group of facilities owned, leased, or otherwise used by a Federal agency, a substantial purpose of which is the performance of research, development, or engineering by employees of the Federal Government.

"(e) DETERMINATION OF LABORATORY MISSIONS.—For purposes of this section, an agency shall make separate determinations of the mission or missions of each of its laboratories.

"(f) RELATIONSHIP TO OTHER LAWS.—Nothing in this section is intended to limit or diminish existing authorities of any agency.".

SEC. 3. ESTABLISHMENT OF FEDERAL LABORATORY CONSORTIUM FOR TECHNOLOGY TRANSFER.

Section 11 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710) is amended—

(1) by redesignating subsection (e) as subsection (f); and

(2) by inserting after subsection (d) the following:

"(e) ESTABLISHMENT OF FEDERAL LABORATORY CONSORTIUM FOR TECHNOLOGY TRANSFER.—(1) There is hereby established the Federal Laboratory Consortium for Technology Transfer (hereinafter referred to as the 'Consortium') which, in cooperation with Federal laboratories and the private sector, shall—

"(A) develop and (with the consent of the Federal laborotary concerned) administer techniques, training courses, and materials concerning technology transfer to increase the awareness of Federal laboratory employees regarding the commercial potential of laboratory technology and innovations;

"(B) furnish advice and assistance requested by Federal agencies and laboratories for use in their technology transfer programs (including the planning of seminars for small business and other industry);

"(C) provide a clearinghouse for requests, received at the laboratory level, for technical assistance from States and units of local governments, businesses, industrial development organizations, not-for-profit organizations including universities, Federal agencies and laboratories, and other persons, and—

"(i) to the extent that such requests can be responded to with published information available to the National Technical Information Service, refer such requests to that Service, and

"(ii) otherwise refer these requests to the appropriate Federal laboratories and agencies;

"(D) facilitate communication and coordination between Offices of Research and Technology Applications of Federal laboratories;

"(E) utilize (with the consent of the agency involved) the expertise and services of the National Science Foundation, the Department of Commerce, the National Aeronautics and Space Administration, and other Federal agencies, as necessary;

"(F) with the consent of any Federal laboratory, facilitate the use by such laboratory of appropriate technology transfer mechanisms such as personnel exchanges and computer-based systems;

"(G) with the consent of any Federal laboratory, assist such laboratory to establish programs using technical volunteers to provide technical assistance to communities related to such laboratory;

"(H) facilitate communication and cooperation between Offices of Research and Technology Applications of Federal laboratories and regional, State, and local technology transfer organizations;

"(I) when requested, assist colleges or universities, businesses, nonprofit organizations, State or local governments, or regional organizations to establish programs to stimulate research and to encourage technology transfer in such areas as technology

program development, curriculum design, long-term research planning, personnel needs projections, and productivity assessments; and

"(J) seek advice in each Federal laboratory consortium region from representatives of State and local governments, large and small business, universities, and other appropriate persons on the effectiveness of the program (and any such advice shall be provided at no expense to the Government).

"(2) The membership of the Consortium shall consist of the Federal laboratories described in clause (1) of subsection (b) and such other laboratories as may choose to join the Consortium. The representatives to the Consortium shall include a senior staff member of each Federal laboratory which is a member of the Consortium and a representative appointed from each Federal agency with one or more member laboratories.

"(3) The representatives to the Consortium shall elect a Chairman of the Consortium.

"(4) The Director of the National Bureau of Standards shall provide the Consortium, on a reimbursable basis, with administrative services, such as office space, personnel, and support services of the Bureau, as requested by the Consortium and approved by such Director.

"(5) Each Federal laboratory or agency shall transfer technology directly to users or representatives of users, and shall not transfer technology directly to the Consortium. Each Federal laboratory shall conduct and transfer technology only in accordance with the practices and policies of the Federal agency which owns, leases, or otherwise uses such Federal laboratory.

"(6) Not later than one year after the date of the enactment of this subsection, and every year thereafter, the Chairman of the Consortium shall submit a report to the President, to the appropriate authorization and appropriation committees of both Houses of the Congress, and to each agency with respect to which a transfer of funding is made (for the fiscal year or years involved) under paragraph (7), concerning the activities of the Consortium and the expenditures made by it under this subsection during the year for which the report is made.

"(7)(A) Subject to subparagraph (B), an amount equal to 0.005 percent of that portion of the research and development budget of each Federal agency that is to be utilized by the laboratories of such agency for a fiscal year referred to in subparagraph (B)(ii) shall be transferred by such agency to the National Bureau of Standards at the beginning of the fiscal year involved. Amounts so transferred shall be provided by the Bureau to the Consortium for the purpose of carrying out activities of the Consortium under this subsection.

"(B) A transfer shall be made by any Federal agency under subparagraph (A), for any fiscal year, only if—

"(i) the amount so transferred by that agency (as determined under such subparagraph) would exceed $10,000; and

"(ii) such transfer is made with respect to the fiscal year 1987, 1988, 1989, 1990, or 1991.

"(C) The heads of Federal agencies and their designees, and the directors of Federal laboratories, may provide such additional support for operations of the Consortium as they deem appropriate.

"(8)(A) The Consortium shall use 5 percent of the funds provided in paragraph (7)(A) to establish demonstration projects in technology transfer. To carry out such projects, the Consortium may arrange for grants or awards to, or enter into agreements with, nonprofit State, local, or private organizations or entities whose primary purposes are to facilitate cooperative research between the Federal laboratories and organizations not associated with the Federal laboratories, to transfer technology from the Federal laboratories, and to advance State and local economic activity.

"(B) The demonstration projects established under subparagraph (A) shall serve as model programs. Such projects shall be designed to develop programs and mechanisms for technology transfer from the Federal laboratories which may be utilized by the States and which will enhance Federal, State and local programs for the transfer of technology.

"(C) Application for such grants, awards, or agreements shall be in such form and contain such information as the Consortium or its designee shall specify.

"(D) Any person who receives or utilizes any proceeds of a grant or award made, or agreement entered into, under this paragraph shall keep such records as the Consortium or its designee shall determine are necessary and appropriate to facilitate effective audit and evaluation, including records which fully disclose the amount and disposition of such proceeds and the total cost of the project in connection with which such proceeds were used.".

SEC. 4. UTILIZATION OF FEDERAL TECHNOLOGY.

(a) RESPONSIBILITY FOR TECHNOLOGY TRANSFER.—Section 11(a) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710(a)) is amended—

(1) by inserting "(1)" after "POLICY.—"; and

(2) by adding at the end thereof the following new paragraphs:

"(2) Technology transfer, consistent with mission responsibilities, is a responsibility of each laboratory science and engineering professional.

"(3) Each laboratory director shall ensure that efforts to transfer technology are considered positively in laboratory job descriptions, employee promotion policies, and evaluation of the job performance of scientists and engineers in the laboratory.".

(b) RESEARCH AND TECHNOLOGY APPLICATIONS OFFICES.—(1) Section 11(b) of such Act (15 U.S.C. 3710(b)) is amended—

(A) by striking out "a total annual budget exceeding $20,000,000 shall provide at least one professional individual full-time" and inserting in lieu thereof "200 or more full-time equivalent scientific, engineering, and related technical positions shall provide one or more full-time equivalent positions";

(B) by inserting immediately before the next to last sentence the following new sentence: "Furthermore, individuals filling positions in an Office of Research and Technology Applications shall be included in the overall laboratory/agency management development program so as to ensure that highly competent technical managers are full participants in the technology transfer process.";

(C) by striking out "requirements set forth in (1) and/or (2) of this subsection" in the next to last sentence and inserting in lieu thereof "requirement set forth in clause (2) of the preceding sentence"; and

(D) by striking out "either requirement (1) or (2)" in the last sentence and inserting in lieu thereof "such requirement".

(2) Section 11(c) of such Act (15 U.S.C. 3710(c)) is amended—

(A) by striking out paragraph (1) and inserting in lieu thereof the following:

"(1) to prepare application assessments for selected research and development projects in which that laboratory is engaged and which in the opinion of the laboratory may have potential commercial applications;";

(B) by striking out "the Center for the Utilization of Federal Technology" in paragraph (3) and inserting in lieu thereof "the National Technical Information Service, the Federal Laboratory Consortium for Technology Transfer,", and by striking out "and" after the semicolon;

(C) by striking out "in response to requests from State and local government officials." in paragraph (4) and inserting in lieu thereof "to State and local government officials; and"; and

(D) by inserting immediately after paragraph (4) the following new paragraph:

"(5) to participate, where feasible, in regional, State, and local programs designed to facilitate or stimulate the transfer of technology for the benefit of the region, State, or local jurisdiction in which the Federal laboratory is located."

(c) DISSEMINATION OF TECHNICAL INFORMATION.—Section 11(d) of such Act (15 U.S.C. 3710(d)) is amended—

(1) by striking out "(d)" and all that follows down through "shall—" and inserting in lieu thereof the following:

"(d) DISSEMINATION OF TECHNICAL INFORMATION.—The National Technical Information Service shall—";

(2) by striking out paragraph (2);

(3) by striking out "existing" in paragraph (3), and redesignating such paragraph as paragraph (2);

(4) by striking out paragraph (4) and inserting in lieu thereof the following:

"(3) receive requests for technical assistance from State and local governments, respond to such requests with published information available to the Service, and refer such requests to the Federal Laboratory Consortium for Technology Transfer to the extent that such requests require a response involving more than the published information available to the Service;";

(5) by redesignating paragraphs (5) and (6) as paragraphs (4) and (5), respectively; and

(6) by striking out "(c)(4)" in paragraph (4) as so redesignated and inserting in lieu thereof "(c)(3)".

(d) AGENCY REPORTING.—Section 11(f) of such Act (15 U.S.C. 3710(e)) (as redesignated by section 3(l) of this Act) is amended—

(1) by striking out "prepare biennially a report summarizing the activities" in the first sentence and inserting in lieu thereof "report annually to the Congress, as part of the agency's annual budget submission, on the activities"; and

(2) by striking out the second sentence.

SEC. 5. FUNCTIONS OF THE SECRETARY OF COMMERCE.

Section 11 of the Stevenson-Wydler Technology Innovation Act of 1980 (as amended by the preceding provisions of this Act) is further amended by adding at the end thereof the following new subsection:

"(g) FUNCTIONS OF THE SECRETARY.—(1) The Secretary, in consultation with other Federal agencies, may—

"(A) make available to interested agencies the expertise of the Department of Commerce regarding the commercial potential of inventions and methods and options for commercialization which are available to the Federal laboratories, including research and development limited partnerships;

"(B) develop and disseminate to appropriate agency and laboratory personnel model provisions for use on a voluntary basis in cooperative research and development arrangements; and

"(C) furnish advice and assistance, upon request, to Federal agencies concerning their cooperative research and development programs and projects.

"(2) Two years after the date of the enactment of this subsection and every two years thereafter, the Secretary shall submit a summary report to the President and the Congress on the use by the agencies and the Secretary of the authorities specified in this Act. Other Federal agencies shall cooperate in the report's preparation.

"(3) Not later than one year after the date of the enactment of the Federal Technology Transfer Act of 1986, the Secretary shall submit to the President and the Congress a report regarding—

"(A) any copyright provisions or other types of barriers which tend to restrict or limit the transfer of federally funded computer software to the private sector and to State and local governments, and agencies of such State and local governments; and

"(B) the feasibility and cost of compiling and maintaining a current and comprehensive inventory of all federally funded training software.".

SEC. 6. REWARDS FOR SCIENTIFIC, ENGINEERING, AND TECHNICAL PERSONNEL OF FEDERAL AGENCIES.

The Stevenson-Wydler Technology Innovation Act of 1980 (as amended by the preceding provisions of this Act) is further amended by inserting after section 12 the following new section:

"SEC. 13. REWARDS FOR SCIENTIFIC, ENGINEERING, AND TECHNICAL PERSONNEL OF FEDERAL AGENCIES.

"The head of each Federal agency that is making expenditures at a rate of more than $50,000,000 per fiscal year for research and development in its Government-operated laboratories shall use the appropriate statutory authority to develop and implement a cash awards program to reward its scientific, engineering, and technical personnel for—

"(1) inventions, innovations, or other outstanding scientific or technological contributions of value to the United States due to commercial applications or due to contributions to missions of the Federal agency or the Federal Government, or

"(2) exemplary activities that promote the domestic transfer of science and technology developed within the Federal Government and result in utilization of such science and technology by

American industry or business, universities, State or local governments, or other non-Federal parties.".

SEC. 7. DISTRIBUTION OF ROYALTIES RECEIVED BY FEDERAL AGENCIES.

The Stevenson-Wydler Technology Innovation Act of 1980 (as amended by the preceding provisions of this Act) is further amended by inserting after section 13 the following new section:

"SEC. 14. DISTRIBUTION OF ROYALTIES RECEIVED BY FEDERAL AGENCIES.

"(a) IN GENERAL.—(1) Except as provided in paragraphs (2) and (4), any royalties or other income received by a Federal agency from the licensing or assignment of inventions under agreements entered into under section 12, and inventions of Government-operated Federal laboratories licensed under section 207 of title 35, United States Code, or under any other provision of law, shall be retained by the agency whose laboratory produced the invention and shall be disposed of as follows:

"(A)(i) The head of the agency or his designee shall pay at least 15 percent of the royalties or other income the agency receives on account of any invention to the inventor (or co-inventors) if the inventor (or each such co-inventor) was an employee of the agency at the time the invention was made. This clause shall take effect on the date of the enactment of this section unless the agency publishes a notice in the Federal Register within 90 days of such date indicating its election to file a Notice of Proposed Rulemaking pursuant to clause (ii).

"(ii) An agency may promulgate, in accordance with section 553 of title 5, United States Code, regulations providing for an alternative program for sharing royalties with inventors who were employed by the agency at the time the invention was made and whose names appear on licensed inventions. Such regulations must—

"(I) guarantee a fixed minimum payment to each such inventor, each year that the agency receives royalties from that inventor's invention;

"(II) provide a percentage royalty share to each such inventor, each year that the agency receives royalties from that inventor's invention in excess of a threshold amount;

"(III) provide that total payments to all such inventors shall exceed 15 percent of total agency royalties in any given fiscal year; and

"(IV) provide appropriate incentives from royalties for those laboratory employees who contribute substantially to the technical development of a licensed invention between the time of the filing of the patent applicatioin and the licensing of the invention.

"(iii) An agency that has published its intention to promulgate regulations under clause (ii) may elect not to pay inventors under clause (i) until the expiration of two years after the date of the enactment of this Act or until the date of the promulgation of such regulations, whichever is earlier. If an agency makes such an election and after two years the regulations have not been promulgated, the agency shall make payments (in accordance with clause (i)) of at least 15 percent of the royalties involved, retroactive to the date of the enactment of this Act. If promulgation of the regulations occurs within two years after the date of the enactment of this Act, pay-

ments shall be made in accordance with such regulations, retroactive to the date of the enactment of this Act. The agency shall retain its royalties until the inventor's portion is paid under either clause (i) or (ii). Such royalties shall not be transferred to the agency's Government-operated laboratories under subparagraph (B) and shall not revert to the Treasury pursuant to paragraph (2) as a result of any delay caused by rulemaking under this subparagraph.

"(B) The balance of the royalties or other income shall be transferred by the agency to its Government-operated laboratories, with the majority share of the royalties or other income from any invention going to the laboratory where the invention occurred; and the funds so transferred to any such laboratory may be used or obligated by that laboratory during the fiscal year in which they are received or during the succeeding fiscal year—

"(i) for payment of expenses incidental to the administration and licensing of inventions by that laboratory or by the agency with respect to inventions which occurred at that laboratory, including the fees or other costs for the services of other agencies, persons, or organizations for invention management and licensing services;

"(ii) to reward scientific, engineering, and technical employees of that laboratory;

"(iii) to further scientific exchange among the government-operated laboratories of the agency; or

"(iv) for education and training of employees consistent with the research and development mission and objectives of the agency, and for other activities that increase the licensing potential for transfer of the technology of the Government-operated laboratories of the agency.

Any of such funds not so used or obligated by the end of the fiscal year succeeding the fiscal year in which they are received shall be paid into the Treasury of the United States.

"(2) If, after payments to inventors under paragraph (1), the royalties received by an agency in any fiscal year exceed 5 percent of the budget of the Government-operated laboratories of the agency for that year, 75 percent of such excess shall be paid to the Treasury of the United States and the remaining 25 percent may be used or obligated for the purposes described in clauses (i) through (iv) of paragraph (1)(B) during that fiscal year or the succeeding fiscal year. Any funds not so used or obligated shall be paid into the Treasury of the United States.

"(3) Any payment made to an employee under this section shall be in addition to the regular pay of the employee and to any other awards made to the employee, and shall not affect the entitlement of the employee to any regular pay, annuity, or award to which he is otherwise entitled or for which he is otherwise eligible or limit the amount thereof. Any payment made to an inventor as such shall continue after the inventor leaves the laboratory or agency. Payments made under this section shall not exceed $100,000 per year to any one person, unless the President approves a larger award (with the excess over $100,000 being treated as a Presidential award under section 4504 of title 5, United States Code).

"(4) A Federal agency receiving royalties or other income as a result of invention management services performed for another Federal agency or laboratory under section 207 of title 35, United States Code, shall retain such royalties or income to the extent required to offset the payment of royalties to inventors under clause (i) of paragraph (1)(A), costs and expenses incurred under clause (1) of paragraph (1)(B), and the cost of foreign patenting and maintenance for such invention performed at the request of the other agency or laboratory. All royalties and other income remaining after payment of the royalties, costs, and expenses described in the preceding sentence shall be transferred to the agency for which the services were performed, for distribution in accordance with clauses (i) through (iv) of paragraph (1)(B).

"(b) CERTAIN ASSIGNMENTS.—If the invention involved was one assigned to the Federal agency—

"(1) by a contractor, grantee, or participant in a cooperative agreement with the agency, or

"(2) by an employee of the agency who was not working in the laboratory at the time the invention was made.

the agency unit that was involved in such assignment shall be considered to be a laboratory for purposes of this section.

"(c) REPORTS.—(1) In making their annual budget submissions Federal agencies shall submit, to the appropriate authorization and appropriation committees of both Houses of the Congress, summaries of the amount of Royalties or other income received and expenditures made (including inventor awards) under this section.

"(2) The Comptroller General, five years after the date of the enactment of this section, shall review the effectiveness of the various royalty-sharing programs established under this section and report to the appropriate committees of the House of Representatives and the Senate, in a timely manner, his findings, conclusions, and recommendations for improvements in such programs.".

SEC. 8. EMPLOYEE ACTIVITIES.

The Stevenson-Wydler Technology Innovation Act of 1980 (as amended by the preceding provisions of this Act) is further amended by inserting after section 14 the following new section:

"SEC. 15. EMPLOYEE ACTIVITIES.

"(a) IN GENERAL.—If a Federal agency which has the right of ownership to an invention under this Act does not intend to file for a patent application or otherwise to promote commercialization of such invention, the agency shall allow the inventor, if the inventor is a Government employee or former employee who made the invention during the course of employment with the Government, to retain title to the invention (subject to reservation by the Government of a nonexclusive, nontransferrable, irrevocable, paid-up license to practice the invention or have the invention practiced throughout the world by or on behalf of the Government). In addition, the agency may condition the inventor's right to title on the timely filing of a patent application in cases when the Government determines that it has or may have a need to practice the invention.

"(b) DEFINITION.—For purposes of this section, Federal employees include 'special Government employees' as defined in section 202 of title 18, United States Code.

"(c) RELATIONSHIP TO OTHER LAWS.—Nothing in this section is intended to limit or diminish existing authorities of any agency.".

SEC. 9. MISCELLANEOUS AND CONFORMING AMENDMENTS.

(a) REPEAL OF NATIONAL INDUSTRIAL TECHNOLOGY BOARD.—Section 10 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3709) is repealed.

(b) CHANGES IN TERMINOLOGY OR ADMINISTRATIVE STRUCTURE.—(1) Section 3(2) of the Stevenson-Wydler Technology Innovation Act of 1980 is amended by striking out "centers for industrial technology" and inserting in lieu thereof "cooperative research centers".

(2) Section 4 of such Act is amended—

(A) by striking out "Industrial Technology" in paragraph (1) and inserting in lieu thereof "Productivity, Technology, and Innovation";

(B) by striking out "'Director' means the Director of the Office of Industrial Technology" in paragraph (3) and inserting in lieu thereof "'Assistant Secretary' means the Assistant Secretary for Productivity, Technology, and Innovation";

(C) by striking out "Centers for Industrial Technology" in paragraph (4) and inserting in lieu thereof "Cooperative Research Centers";

(D) by striking out paragraph (6), and redesignating paragraphs (7) and (8) as paragraphs (6) and (7), respectively; and

(E) by striking out "owned and funded" in paragraph (6) as so redesignated and inserting in lieu thereof "owned, leased, or otherwise used by a Federal agency and funded".

(3) Section 5(a) of such Act is amended by striking out "Industrial Technology" and inserting in lieu thereof "Productivity, Technology, and Innovation".

(4) Section 5(b) of such Act is amended by striking out "DIRECTOR" and inserting in lieu thereof "ASSISTANT SECRETARY", and by striking out "a Director of the Office" and all that follows and inserting in lieu thereof "an Assistant Secretary for Productivity, Technology, and Innovation.".

(5) Section 5(c) of such Act is amended—

(A) by striking out "the Director" each place it appears and inserting in lieu thereof "the Assistant Secretary";

(B) by redesignating paragraphs (7) and (8) as paragraphs (9) and (10), respectively; and

(C) by inserting immediately after paragraph (6) the following new paragraphs:

"(7) encourage and assist the creation of centers and other joint initiatives by State or local governments, regional organizations, private businesses, institutions of higher education, nonprofit organizations, or Federal laboratories to encourage technology transfer, to stimulate innovation, and to promote an appropriate climate for investment in technology-related industries;

"(8) propose and encourage cooperative research involving appropriate Federal entities, State or local governments, regional organizations, colleges or universities, nonprofit organizations, or private industry to promote the common use of resources, to improve training programs and curricula, to stimulate interest

in high technology careers, and to encourage the effective dissemination of technology skills within the wider community;".

(6) The heading of section 6 of such Act is amended to read as follows:

"SEC. 6. COOPERATIVE RESEARCH CENTERS."

(7) Section 6(a) of such Act is amended by striking out "Centers for Industrial Technology" and inserting in lieu thereof "Cooperative Research Centers".

(8) Section 6(b)(1) of such Act is amended by striking out "basic and applied".

(9) Section 6(e) of such Act is amended to read as follows:

"(e) RESEARCH AND DEVELOPMENT UTILIZATION.—In the promotion of technology from research and development efforts by Centers under this section, chapter 18 of title 35, United States Code, shall apply to the extent not inconsistent with this section.".

(10) Section 6(f) of such Act is repealed.

(11) The heading of section 8 of such Act is amended by striking out "CENTERS FOR INDUSTRIAL TECHNOLOGY" and inserting in lieu thereof "COOPERATIVE RESEARCH CENTERS".

(12) Section 8(a) of such Act is amended by striking out "Centers for Industrial Technology" and inserting in lieu thereof "Cooperative Research Centers".

(13) Section 19 of such Act (as redesignated by section 2 of this Act) is amended by striking out "pursuant to this Act" and inserting in lieu thereof "pursuant to the provisions of this Act (other than sections 12, 13, and 14)".

(c) RELATED CONFORMING AMENDMENT.—Section 210 of title 35, United States Code, is amended by adding at the end thereof the following new subsection:

"(e) The provisions of the Stevenson-Wydler Technology Innovation Act of 1980, as amended by the Federal Technology Transfer Act of 1986, shall take precedence over the provisions of this chapter to the extent that they permit or require a disposition of rights in subject inventions which is inconsistent with this chapter.".

(d) ADDITIONAL DEFINITIONS.—Section 4 of such Act (as amended by subsection (b)(2) of this section) is further amended by adding at the end thereof the following new paragraphs:

"(8) 'Federal agency' means any executive agency as defined in section 105 of title 5, United States Code, and the military departments as defined in section 102 of such title.

"(9) 'Invention' means any invention or discovery which is or may be patentable or otherwise protected under title 35, United States Code, or any novel variety of plant which is or may be protectable under the Plant Variety Protection Act (7 U.S.C. 2321 et seq.).

"(10) 'Made' when used in conjunction with any invention means the conception or first actual reduction to practice of such invention.

"(11) 'Small business firm' means a small business concern as defined in section 2 of Public Law 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration.

"(12) 'Training technology' means computer software and related materials which are developed by a Federal agency to train employees of such agency, including but not limited to software for computer-based instructional systems and for interactive video disc systems.".

(e) REDESIGNATION OF SECTIONS TO REFLECT CHANGES MADE BY PRECEDING PROVISIONS.—(1) Such Act (as amended by the preceding provisions of this Act) is further amended by redesignating sections 11 through 19 as sections 10 through 18, respectively.

(2)(A) Section 5(d) of such Act is amended by inserting "(as then in effect)" after "sections 5, 6, 8, 11, 12, and 13 of this Act."

(B) Section 8(a) of such Act is amended by striking out the last sentence.

(C) Section 9(d) of such Act is amended by striking out "or 13" and inserting in lieu thereof "10, 14, or 16."

(3) Section 13(a)(1) of such Act (as redesignated by paragraph (1) of this subsection) is amended by striking out "section 12" in the matter preceding subparagraph (A) and inserting in lieu thereof "section 11."

(4) Section 18 of such Act (as redesignated by paragraph (1) of this subsection) is amended by striking out "sections 12, 13, and 14" and inserting in lieu thereof "sections 11, 12, and 13."

(f) CLARIFICATION OF FINDINGS AND PURPOSES.—(1) The second sentence of section 2(10) of such Act (15 U.S.C. 3701(10)) is amended by inserting ", which include inventions, computer software, and training technologies," immediately after "developments."

(2) Section 3(3) of such Act (15 U.S.C. 3702(3)) is amended by inserting ", including inventions, software, and training technologies," immediately after "developments."

And the Senate agree to the same.

That the House recede from its disagreement to the amendment of the Senate to the title of the bill and agree to the same.

DON FUQUA,
DOUG WALGREN,
STAN LUNDINE,
MANUEL LUJAN, Jr.,
SHERWOOD L. BOEHLERT,
Managers on the Part of the House.

JACK DANFORTH,
FRITZ HOLLINGS,
DON RIEGLE,
SLADE GORTON,
LARRY PRESSLER,
Managers on the Part of the Senate.

JOINT EXPLANATORY STATEMENT OF THE COMMITTEE OF CONFERENCE

The managers on the part of the House and the Senate at the conference on the disagreeing votes of the two Houses on the amendments of the Senate to the bill (H.R. 3773) to amend the Stevenson-Wydler Technology Innovation Act of 1980 to promote technology transfer by authorizing Government-operated laboratories to enter into cooperative research agreements and by establishing a Federal Laboratory Consortium for Technology Transfer within the National Science Foundation, and for other purposes, submit the following joint statement to the House and the Senate in explanation of the effect of the action agreed upon by the managers and recommended in the accompanying conference report:

The Senate amendment to the text of the bill struck out all of the House bill after the enacting clause and inserted a substitute text.

The House recedes from its disagreement to the amendment of the Senate with an amendment which is a substitute for the House bill and the Senate amendment. The differences between the House bill, the Senate amendment, and the substitute agreed to in conference are noted below, except for clerical corrections, conforming changes made necessary by agreements reached by the conferees, and minor drafting and clarifying changes.

The following section-by-section analysis explains actions of the managers in the conference report to accompany H.R. 3773.

SECTION 1.—SHORT TITLE

The Conferees chose to use the Senate version of the title: "Federal Technology Transfer Act of 1986."

SECTION 2.—COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS

There were marked similarities between the House and Senate-passed versions of this section. Both reflected the concern that the Federal laboratories need clear authority to do cooperative research and that they need to be able to exercise that authority at the laboratory level. Both permit the laboratories to enter into cooperative research and development agreements with a wide range of parties. Both strive to make the entering of these agreements as easy as possible from the point of view of the private sector participant, while protecting the legitimate concerns of the government. This authority is optional in both versions and is not intended to affect previously existing cooperative agreement authority, such as the Space Act provisions, which for almost three decades have permitted NASA laboratories to enter into cooperative agreements.

The conferees deleted the House version's requirement of an agency plan within 180 days of enactment of the section. Instead of

requiring a plan or regulations, the conference version of the legislation makes regulations optional and makes it clear that implementation of the cooperative research and development authority can begin in advance of any regulations.

The conferees adopted many of the modifications the Senate made to the House-passed version of this section. The conference version specifically states that a laboratory may accept funds, personnel, and services, and collaborating parties may accept the same, with the exception of funds, as their contribution under a cooperative agreement. It applies to any inventions occurring under a cooperative R&D agreement, the long-standing tradition of reserving the right in the government to a paid-up non-exclusive license in that invention. It also clearly gives permission to present and former federal employees of a laboratory to be a party to efforts to commercialize that laboratory's inventions, to the extent they can do so and not be in violation of agency requirements and standards of conduct.

The conditions on the exercise of the cooperative agreement authority which were part of the Agency Plan under the House version of the legislation are still to be considered by the laboratories in deciding with whom to contract. Special consideration is still to be given to small businesses and consortia involving small business. The purpose of this requirement is to ensure access by these groups to the laboratories and is not intended to limit access by non-profit organizations and universities.

The provisions from both versions dealing with the preference to U.S. business units were accepted. Therefore, laboratories are to give preference to business units located in the United States which agree to domestic manufacture. When evaluating whether to grant access by a foreign company, the Federal laboratories may examine the willingness of the foreign government to open its own laboratories to U.S. firms.

The House-passed provisions on conflict of interest are retained as is, and its provisions for review of a cooperative research and development agreement and for limited headquarters review of agreements are accepted substantially as passed by that body.

SECTION 3.—ESTABLISHMENT OF FEDERAL CONSORTIUM FOR TECHNOLOGY TRANSFER

The conferees recommend adopting the Senate decisions to affiliate the Federal Laboratory Consortium with the National Bureau of Standards and to establish a program for demonstration projects in technology transfer. They further recommend funding the consortium at House-recommended levels.

Both the House and the Senate-passed versions of this legislation address the need of the Federal Laboratory Consortium (FLC) to have a permanent connection with a federal agency and a more predictable source of funding for the next five years. These two changes will permit the FLC, which has operated with very limited funding for much of its 15 years, to coordinate its program better and to expand its efforts at permitting the technology transfer officers of the various Federal laboratories to work more closely together. It is the clear intent of both Houses that, to the extent pos-

sible, the existing programs and initiatives of the FLC be continued uninterrupted as the organizational changes required by the Act are made. As soon as practical after enactment, the current FLC officers are asked to begin the FLC's transition by convening a meeting both of the current FLC representatives and of representatives of any laboratories added to the Consortium by this Act. Because of the twin goals of continuity and increased effectiveness for the FLC, these efforts should not await funds transfers under the FLC set-aside provision.

The Federal Laboratory Consortium is expected to remain a networking organization of the Federal laboratories and their technology transfer officers. The consortium is to function as a clearinghouse of information and has purposely been established with a small budget and small paid staff so that the volunteer spirit that has made the organization a success to date will continue. The consortium is not to engage directly in the transfer of technology. Rather, it is expected to help the laboratories that develop the technology to do a better job of transferring it by themselves or through appropriate agents.

The conferees felt, however, for the FLC to perform this function properly, increased funding is necessary for such projects as expanding the Consortium's electronic mail system and strengthening its regional operations. These efforts, plus the planned re-establishment at the National Bureau of Standards of a small Washington presence, led the conferees to recommend that the FLC set-aside be the House-passed figure of .005% to fund the operations of the organization. Five percent of these funds would be used to cover the Senate-passed program of demonstration projects in technology transfer. The Conferees see these demonstrations as a useful complement to the Federal Laboratory Consortium. At least two such demonstrations are to be funded over the five year life of the demonstration program, and the Consortium should look for diversity both in the types of demonstrations funded and in the states hosting the demonstrations. The Federal Laboratory Consortium is expected to develop program specifications, but the conferees expect the actual competition and awards process to be conducted at the request of the FLC either by a federal agency or by a laboratory with existing capabilities to administer such a program.

The conferees recommend establishment of the House-passed concept of regional advisors for the Federal Laboratory Consortium but did not choose to establish formal advisory committees. These volunteers will provide insights from the business community which will help the consortium stay on target in its efforts to make the laboratories helpful and accessible to the business community. The conferees also recommend inclusion of the Senate provision authorizing the Consortium to encourage laboratories, when requested, to assist interested organizations and businesses in various facets of technology program planning and curriculum design.

SECTION 4.—UTILIZATION OF FEDERAL TECHNOLOGY

The House and Senate-passed versions of this section, designed to upgrade the status of laboratory professionals who do technology transfer, were similar. The conferees recommend accepting from

the House version, the policy statement that technology transfer is a responsibility of every laboratory's scientific and engineering professional, and the requirement that technology transfer professionals be included in overall laboratory/agency management development programs. From the Senate version, the conferees recommend inclusion among the functions of technology transfer professionals, participation, where feasible, in state, local and regional technology transfer efforts. The House requirements of technology transfer reports as part of agency annual budget submissions is retained.

SECTION 5.—FUNCTIONS OF THE SECRETARY

The conferees recommend acceptance of the Senate's two additions to the bill's lists of duties of the Secretary of Commerce. The Secretary is required to submit biennial reports to the President and the Congress on the use by agencies of Stevenson-Wydler Act authorities. The original Stevenson-Wydler Act required one such report. The Secretary also is required to submit a one-time report to the President and Congress on copyright provisions and other types of legal barriers which limit the transfer of federally funded computer software and on the feasibility and cost of compiling and maintaining a current and comprehensive inventory of federally funded training software. The report is to identify recurring problems rather than to attempt to compile a comprehensive list of barriers facing individual software projects.

SECTION 6.—REWARDS FOR SCIENTIFIC, ENGINEERING, AND TECHNICAL PERSONNEL OF FEDERAL AGENCIES

This section is identical in the House and Senate versions of this legislation.

SECTION 7.—DISTRIBUTION OF ROYALTIES RECEIVED BY FEDERAL AGENCIES

Both the House and Senate-passed versions of this section direct agencies to retain royalties from the licensing or assignment of inventions and to allocate them to their government-operated laboratories. Both versions have identical limits on the amount of money the laboratories may retain. Both have similar uses to which the laboratory directors may allocate the money, one of which is to reward employees of the agency for innovative work, both in furtherance of the agency's mission and in advancing inventions with commercial potential.

The Senate bill additionally directs agencies to allocate at least 15% of royalties from an invention to the inventor or coinventors, before allocating the remainder to its laboratories. The House had chosen not to include a percentage royalty share, preferring to leave maximum flexibility in rewarding inventors with laboratory management.

The conferees recommend acceptance of a compromise provision, which requires agencies either to allocate at least 15% of royalties from an invention to the inventor or coinventors, or to promulgate

regulations providing an alternative set of rights in the inventor whose invention produces royalties for the government.

The conferees believe agencies should have the flexibility to formulate royalty payments to employees that best meet the unique circumstances of each agency and that meet the purpose of the Act. At the same time, the conferees agree that providing a predictable, guaranteed reward from royalties to federally employed inventors provides a strong incentive to report, develop, and help license inventions with commercial potential.

The conferees agree that royalty sharing alone, although effective, is an imperfect tool in promoting technology transfer. The process of turning an invention into a successful commercial product is complex, and involves the work of more than just the inventors. Within a laboratory a team of scientists and engineers, beyond those involved in patenting an invention, may contribute to its development and licensing, and their contribution may be as important to the commercial success of the invention as that of the inventors. In addition, a single, fixed royalty share may be an inadequate reward for an inventor, depending on the amount of royalties received.

Therefore, the conferees believe that laboratory directors should use the authority in section 14(a)(1)(B)(ii) to reward those employees who contribute to innovative work, in mission-related work with or without commercial potential. Similarly, agencies that choose to promulgate rules to set alternative royalty percentages should consider tiered allocation of royalties, which give more weight to the inventor's contribution when royalty income is small, but which also recognize the contributions of a wider team.

In the Federal laboratories, depending on size, a percentage of royalties could be allocated to the research team or project, in addition to the inventor's share, before the remainder is allocated to the Laboratory Director. Such an allocation is possible without formal rulemaking, provided the allocation is in addition to the minimum inventor's share of 15% under clauses 14(a)(1)(A)(i) or (A)(ii).

The initial 15 percent allocation for royalties is to take effect on enactment of the bill unless an agency publishes its intention to promulgate rules. The 15% or any alternative allocation is to apply to all royalty income received by an agency in a given year, including that from inventions patented and licensed before the date of enactment of this Act, and is to continue for as long as the agency receives income from an invention, including after the inventors may have left the agency. The compromise provides that a Federal employee may not receive more than $100,000 per year in royalty income without the approval of the President. This coincides with the limits on agencies' statutory authority to make cash awards to employees.

If an agency's rulemaking is completed within two years after enactment and the 15 percent royalty sharing has not gone into effect, the effective date of royalty sharing under the rule is to be the effective date of the Act. If there is no rule within two years of enactment and royalty sharing is not in effect, 15% mandatory royalty sharing is to go into effect for that agency retroactive to the date of enactment. If a rule goes into effect more than two years

after enactment, the effective date of the royalty sharing under the rule for that agency is to be the same as the effective date of the rule.

The conferees wish to stress the flexibility of the compromise on royalty sharing. It is intended to give each agency the freedom to devise different employee award systems that accomplish the purposes of the Act and that best meet the unique needs, cultures, and technology transfer problems of the agencies' laboratories. In order to strengthen the program so that all agencies can benefit from what is learned in the varying approaches to royalty sharing, Comptroller General report has been mandated evaluating the first five years of this royalty sharing program.

The conferees value the licensing activities that have been performed by the National Technical Information Service for other agencies including other parts of the Department of Commerce. Section 14(a)(6) has been added to permit NTIS to continue this work without interruption after enactment.

The conferees are in agreement that there are inherent differences in the way public sector and private sector employees can be rewarded. Furthermore, they have provided agencies with flexibility in the establishment of programs to reward inventors. The conferees, therefore, do not expect any particular agency's approach for rewarding inventors, whether it includes 15 percent mandatory royalty sharing or not, to be viewed as setting a precedent for the private sector.

SECTION 8.—EMPLOYEE ACTIVITIES

The conferees recommend acceptance of this provision from the Senate version of the legislation as modified. The provision is intended to assure that a Government employee has a chance to obtain title to an invention if the government does not plan to arrange for the commercialization of the invention. The conferees recommend giving the inventor an automatic right to request an invention where the government neither intends to file for a patent nor intends to promote the transfer of this information to the U.S. private sector by alternate means.

SECTION 9.—MISCELLANEOUS AND CONFORMING AMENDMENTS

The only significant difference between the House and Senate versions of these provisions is the Senate's addition of two new responsibilities for Department of Commerce's Office of Productivity, Technology and Innovation. The conferees recommend inclusion of both new responsibilities: promotion of joint initiatives in technology transfer and encouragement of cooperative programs among all appropriate parties regarding development and dissemination of technological skills.

DON FUQUA,
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