99TH CONGRESS
1st Session

HOUSE OF REPRESENTATIVES

REPORT
99-415

FEDERAL TECHNOLOGY TRANSFER ACT OF 1985

DECEMBER 5, 1985.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. FUQUA, from the Committee on Science and Technology, submitted the following

REPORT

[To accompany H.R. 3773]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science and Technology, to whom was referred 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 considered the same, report favorably thereon with amendments and recommend that

	Page
Budget analysis and projection	12
Congressional Budget Office cost estimate	12
Committee recommendation	13
Changes in existing law made by the Bill, as reported	13

The amendments (stated in terms of the page and line numbers of the introduced bill) are as follows:

Page 3, lines 17 and 18, strike out "after the enactment of this section," and insert in lieu thereof "after the election by any Federal agency to implement subsection (a),".

Page 3, line 19, strike out "each agency's" and insert in lieu thereof "that agency's".

Page 8, strike out line 11.

Page 8, line 15, strike out the period and insert in lieu thereof "; and".

Page 8, after line 15, insert the following new subparagraph:

> "(I) establish advisory committees in each Federal laboratory consortium region composed of representatives from State and local governments, large and small business, universities, and other appropriate persons to advise on the effectiveness of the program (and the members of any such advisory committee shall serve at no expense to the government).

Page 11, after line 11, insert the following new subparagraph:

> (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;

Page 11, line 12, strike out "(B)" and insert in lieu thereof "(C)".

explosion of interest in harnessing American inventiveness in ways that help the domestic economy. While many of the provisions of the Stevenson-Wydler Act have not been implemented, some of the concepts have blossomed at the state and local level, and the Department of Commerce has engaged in related activities. At the same time, the desire of industry, universities, non-profit organizations, and units of state and local government to cooperate with the federal laboratories in programs of mutual interest has never been greater.

The Federal Government funds approximately half of this country's total research and development, and much of this work is performed in government-owned laboratories. The national interest demands that these federal laboratories be more responsive to our economic need for their new technologies. Where appropriate these technologies should be transferred from the federal sector and translated into new commercial products and processes.

Five years of experience under Stevenson-Wydler have made the need for legislative change apparent in a number of areas. Statutory language is required to permit most federal laboratories to enter into cooperative research and development agreements. Legislative changes are needed to improve the ability of the federal laboratories to identify innovations with commercial potential and to strengthen the Federal Laboratory Consortium for Technology Transfer (FLC). Employee incentives for participating in technology transfer need improvement. Technical changes are needed to make the Stevenson-Wydler Act reflect current practice.

BACKGROUND

The Science and Technology Committee has had a longstanding and continuing interests in promoting utilization of federal technology. A major step was taken in this area with the enactment of the Stevenson-Wydler Technology Innovation Act (P.L. 96-480) in 1980. Section 11 of this Act mandated that federal laboratories transfer

by the President, recommended increased interaction between federal laboratories and industry. It called for greater exchange of knowledge and personnel, for collaborative projects, and for industry funding of laboratory work.

The Panel's findings reflect a widespread belief that research in the federal labortories can be better attuned to industrial needs without compromising the laboratories' missions. Moreover, the benefits that would accrue to industry from the federal share of the joint research and development funding are deemed to be in the national interest.

In 1984, the Joint Economic Committee of the Congress added further legislative recommendations when it reviewed federal technology transfer as part of a broader study of enterpreneurship and innovation. That Committee endorsed the positive effects of P.L. 96–480 but felt that federal laboratories and their employees needed further incentives for technology transfer. It also recognized that the Federal Laboratory Consortium (FLC), an ad hoc association of the ORTAs created by Stevenson-Wydler, had become, de facto, the primary body for facilitating technology transfer from the federal laboratories. Therefore, the Joint Economic Committee recommended that the Federal Labortory Consortium be given a statutory basis for its role.

Legislative History

In response to these needs, two legislative proposals were put forward early in the 99th Congress. H.R. 695 was introduced on January 24, 1985 by Congressman Michel and Mr. Moorhead, Mr. Hyde, Mr. Ritter, and Mr. Zschau. This bill was referred jointly to the Committee on Science and Technology and to the Committee on the Judiciary. H.R. 1572 was introduced on March 19, 1985 by Congressman Lundine with Mr. Fish, Mr. Seiberling, Mr. Walgren, Mr. Boehlert, and Mr. MacKay. The bill was referred solely to the Committee on Science and Technology.

Both bills were then referred to the Science, Research and Tech-

and, a quorum being present, the bill was ordered favorably reported, with amendments, by a unanimous voice vote.

MAJOR PROVISIONS OF H.R. 3773 AS REPORTED

1. COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS

currently there is a wide variance in the ability of government laboratories to enter into cooperative research development arrangments with private industry, universities, and non-profit organizations, and other interested parites. Some agencies such as NASA, because of express legislative authority in their organic acts, have a long history of supporting such arrangements. Others such as the Department of Agriculture (USDA), the National Instituties of Health (NIH), and the Veterans Administrative (VA) have little or no statutory authority upon which to base such working relationships. Laboratories in certain other agencies are reluctant to enter such arrangements because of the cumbersome, time-consuming process required to obtain approvals for joint research.

Private sector interest in working with the Federal Government to solve mutual problems in increasing. Communities and states are looking to laboratories within their boundaries for help in revitalizing local economies. One such example is the Peoria, Illinois Area. The Committee received testimony from representatives of Peoria Economic Development Council who wish to draw upon expertise within USDA's Northern Regional Research Center (NRRC) in Peoria, Illinois as well as the University of Illinois and area industry, to develop efficient bio-production systems capable of producing a greater diversity of useful products. Vacant research facilities are now available to house the project. This or similar legislation must become law before the Peoria project and certain others like it can go forward.

The legislation contains cooperative R&D authority, in which one or more federal laboratories could supply personnel, services, facilities, equipment, or other non-monetary resources under an agree-

II. FEDERAL LABORATORY CONSORTIUM

The Federal Laboratory Consortium for Technology Transfer (FLC) began in 1971 as a Consortium of eleven Department of Defense laboratories and in 1974 expanded to include interested laboratories from other agencies. The organization has grown rapidly, both in numbers of member laboratories and in overall acceptance, especially after laboratories began implementing and Stevenson-Wydler Act's requirement to establish their own technology transfer programs. It is now a voluntary organization of almost 300 federal laboratories from eleven agencies.

Part of the FLC's success must be attributable to its unique organizational structure. Technology transfer officers are designated by laboratory directors to represent the member laboratories. Since the passage of P.L. 96–480 in 1980, these representatives have tended to be the Research and Technology Application Officers (ORTAs) mandated by the Act. These representatives and their counterparts from agency headquarters form a voting membership for organizing the Consortium, electing Consortium officers, and otherwise carrying out the activities of the Consortium. Thus, the FLC is an association of those responsible for technology transfer at the working level rather than an external organization imposed upon the laboratories and agencies.

While technology transfer typically is carried out on a person-to-person basis at the laboratory level, the Consortium allows for a free flow of ideas and information among the technology transfer officers of the various federal laboratories and provides necessary services that no other federal organization can provide, but on a limited and uneven basis. However, as expressed in testimony before the SRT Subcommittee, a comprehensive, systematic technology transfer function requires greater resources than the ad-hoc FLC has been able to muster through voluntary contributions from agencies and laboratories. Therefore, Section 3 of this Act formally establishes the Consortium and provides that the National Science Foundation (NSF) will house the Consortium and provide administrative support for the organizaiton.

It is further intended, to the extent possible, that the existing programs and initiatives of the FLC be continued uninterrupted as the organizational changes required by this Act are made. As soon as practical after enactment, the current FLC officers are asked to convene a meeting both of the current FLC representatives and of any new representatives required under this Act to begin this transition. Because of the twin goals of continuity and increased effectiveness of the FLC, these efforts should not necessarily await funds transfers under the FLC set-aside provision.

In performing its responsibilities, the Consortium may make use of the administrative support services of the National Science Foundation (NSF). It will have to rely upon NSF to set personnel policies for its limited number of employees located at NSF, to provide office space and equipment, and to provide other services as needed. The Consortium shall make reimbursements available to the NSF for the costs of these services.

Because of the need for an unusual organizational structure, the NSF is not to be responsible for performing the duties of the Consortium or accountable for the actions of the Consortium. The Director, however, is encouraged to offer advice and counsel to the FLC as appropriate.

Accountability of the Consortium shall be through annual reporting to Congress and to the heads of the agencies that are funding Consortium activities. Initial funding of the FLC is through a very small set-aside totalling less than $1 million per year from the budgets of agencies with government-owned laboratories (whether government-operated or contractor-operated). This set-aside ends after five years. It is expected that this funding will be supplemented by voluntary contributions from agencies and laboratories and that the voluntary contributions will provide full funding for Consortium activities after 1991 including reimbursement of NSF.

Because participation in the activities of the Consortium corresponds to one aspect of the responsibilities of the laboratories' ORTA officers as mandated by P.L. 96–480, Consortium representatives shall generally receive no compenstion for serving on the Consortium other than the salary paid by the

and universities. This advisory committee meets at least twice a year in conjunction with FLC national meetings. The members serve for three years and are, at present, composed of successful users of the FLC. The FLC leasership attempts to obtain a membership that can understand and deal with overall FLC operations. In order to obtain a more effective assessment of the technology transfer process, each FLC region should establish a regional advisory committee composed of representatives, at least half from industry (both large and small businesses), and also from state and local governments, regional organizations, professional organizations, universities and other interested parties such as chambers of commerce or industrial development organizations. These committees should be composed of both "successful users" and non-users of the FLC system, so that the feedback on the effectiveness of technology transfer reflects both what has worked and what is lacking. The advisory committee members should be selected by the regional FLC network and are expected to serve at no expense to the government.

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

Federal agencies currently have statutory authority to pay cash incentive awards to their federal employees or former employees. Awards up to $10,000 are subject only to the approval of the head of the agency (5 U.S.C. 4502(a)). With the concurrence of the Office of Personnel Management (OPM), awards up to $25,000 may be granted (5 U.S.C. 4502(b)) and, with the approval of the President, awards may exceed that amount (5 U.S.C. 4504). The National Aeronautics and Space Administration (NASA) has additional authority to provide awards up to $100,000 through the Space Act (42 U.S.C. 2458).

If this authority is used effectively, incentive awards programs will encourage creativity and innovativeness among the scientists, engineers, and technical personnel of the Federal Government. They will also boost employees' morale by making individuals aware that their contributions are important and appreciated.

helpful for one agency can be harmful to another. Therefore, rather than imposing a single prescription on all of the different agencies, the heads of the agencies are directed to use their existing statutory authority to develop and implement an awards program for their scientific, engineering, and technical personnel. NASA, as mentioned above, is generally recognized as the federal agency that rewards its employees most consistently. Therefore, it is anticipated that NASA will not be required by this Act to make significant changes in its awards program and, other agencies may find NASA's program to be one model to consider for their own use.

OTHER PROVISIONS

I. UTILIZATION OF FEDERAL TECHNOLOGY

Section 2 of the Act requires, if appropriate, that technology transfer activities be considered positively in personnel matters and makes the following series of small changes in the Stevenson-Wydler Act. It requires laboratories with 200 or more full-time scientific and technical personnel to have at least one full-time equivalent technology transfer (ORTA) position. These laboratories are expected to assign technology transfer as the primary job assignment of at least one full-time professional. The requirement for a full-time equivalent, rather than a full-time person, is intended to provide the laboratories and agencies with some flexibility; for example, they might assign as secondary duties some efforts on programs that are synergistic with technology transfer, such as Industrial Research and Development (IR&D) programs, military critical technology assessments, and the Small Business Innovation Research (SBIR) program. The remainder of the full-time equivalent requirement should be provided by professionals assisting this individual in active transfer. Laboratories with less than 200 full-time equivalent scientific, engineering, and related technical positions are expected to have an individual who devotes substantial efforts to technology transfer including, if possible, Federal Laboratory

brary, and other information services, contribute to some technology transfer projects, these activities alone are not considered to satisfy the intent of this Act.

The Act also clarifies the requirement that laboratories perform applications assessments for research and development activities which, in the opinion of the laboratory, have commercial applications; it is important that these assessments be viewed as part of an active effort to transfer laboratory technology and not as a lengthy bureaucratic effort to create a reference document. They can be targeted to specific groups of likely users and should be short and direct enough to be relevant to busy professionals who, if interested, can come back to the laboratory for more information.

The Center for Utilization of Federal Technology (CUFT) was created in the Stevenson-Wydler Act as an independent entity but in practice has functioned well as part of the National Technical Information Service (NTIS). The substitute amendment abolishes CUFT as a separate entity and splits its functions between NTIS and FLC. It is anticipated that the change will have no impact on current CUFT operations.

This section also permits the Secretary of Commerce to make that department's expertise in technology transfer and related fields available upon request to other federal agencies. The Secretary is also permitted to develop and disseminate model provisions for use on a voluntary basis in cooperative research and development arrangements.

II. DISTRIBUTION OF ROYALTIES RECEIVED BY FEDERAL AGENCIES

Agencies would now be permitted to retain royalties within fixed limits for use by their laboratories to reward inventors for the inventions producing the royalties, as well as for expenses incidental to the administration and licensing of inventions; for furthering scientific exchange; and if funds remain, for research and development or educational purposes which are deemed appropriate by the

al Industrial Technology Board and Changes the names of the Centers for Industrial Technology to Cooperative Research Centers.

SECTION-BY-SECTION ANALYSIS

Section 1. The short title is the Federal Technology Transfer Act of 1985.

Section 2. Federal agencies may permit directors of their government-operated laboratories to enter into cooperative R&D agreements with universities, industry, and other entities. The agencies may go ahead with agreements that are already in process but within 180 days must come up with regulations or instructions that limit headquarters review of an agreement to 30 days and that give special consideration both to small business and to firms manufacturing in the U.S. They also are to establish employee standards of conduct for resolving potential conflicts of interest.

Section 3. The Federal Laboratory Consortium for Technology Transfer is formally established as an organization made up of technology transfer officials from throughout the government and is located within NSF. The responsibilities given to FLC reflect what the organization is now doing or attempting to do as a voluntary organization. FLC officially would be the coordinator among laboratories regarding technology transfer matters and specifically would be authorized to establish an electronic mail system. FLC would be funded by a set aside of an amount equal to 0.005% of the research and development budgets of the federal laboratories for the next five years only; the annual total would be about $900,000. Lab directors or agencies could supplement the amount and would be expected to take over the funding on a voluntary basis at the end of the five year period.

Section 4. This section makes technology transfer part of every laboratory research employee's responsibility and requires lab directors to make sure that, as appropriate, technology transfer ef-

ther scientific exchange, and if any money remains, to fund scientific research and development. It also requires each agency to report on such royalty related activities as part of its annual budget submission.

Section 7. These are miscellaneous and conforming amendments to bring the Stevenson-Wydler Act into conformity with actual practice. The National Industrial Technology Board, which was never activated, is abolished, and the Assistant Secretary position in the Department of Commerce for Productivity, Technology, and Innovation is given a statutory basis. The Centers for Industrial Technology are renamed Cooperative Research Centers.

Effect of Legislation on Inflation

In accordance with Rule XI, Clause 2(l)(4), of the Rules of the House of Representatives, this legislation is assessed to have no adverse inflationary effect on prices and costs in the operation of the national economy.

Committee Oversight Findings and Recommendations

Pursuant to Rule XI, Clause 2(l)(3)(A), and under the authority of Rule X, Clause 2(b)(1) and Clause 3(f), of the Rules of the House of Representatives, the following statement on oversight activities is made:

The Committee's oversight findings and recommendations are contained in the body of this report.

Oversight Findings and Recommendations by the Committee on Government Operations

No statement of findings and recommendations on oversight activity have been submitted by the Committee on Government Operations for inclusion in this report, pursuant to Rule X, Clause

We estimate that enactment of this bill would result in no significant cost to the federal government, and in no cost to state and local governments. The bill would amend the Stevenson-Wydler Technology Innovation Act of 1980 and would establish a number of procedures to encourage the development of technologies by laboratories owned or operated by the federal government, facilitate the transfer of such technologies to the public, and promote cooperation between those laboratories and the private sector. Based on information from the agencies involved, we expect that the implementation of the procedures and provisions of this act would not require the use of a significant amount of additional resources.

If you wish further details on this estimate, we will be pleased to provide them.

With best wishes,

Sincerely,

RUDY PENNER, *Director.*

COMMITTEE RECOMMENDATION

A quorum being present, the bill was ordered favorably reported on November 21, 1985 by a voice vote.

CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

In compliance with clause 3 of Rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted in enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman):

STEVENSON-WYDLER TECHNOLOGY INNOVATION ACT OF 1980

* * * * * * *

SEC. 3. PURPOSE

It is the purpose of this Act to improve the economic, environ-

(4) "Centers" means the [Centers for Industrial Technology] *Cooperative Research Centers* established under section 6 or section 8 of this Act.

* * * * * * *

[(6) "Board" means the National Industrial Technology Board established pursuant to section 10.]

[(7)] *(6)* "Federal laboratory" means any laboratory, any federally funded research and development center, or any center established under section 6 or section 8 of this Act that is owned, *leased, or otherwise used by a Federal agency* and funded by the Federal Government, whether operated by the Government or by a contractor.

[(8)] *(7)* "Supporting agency" means either the Department of Commerce or the National Science Foundation, as appropriate.

(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.

SEC. 5. COMMERCE AND TECHNOLOGICAL INNOVATION

(a) IN GENERAL.—The Secretary shall establish and maintain an Office of [Industrial Technology] *Cooperative Research*

(3) identify technological needs, problems, and opportunities within and across industrial sectors that, if addressed, could make a significant contribution to the economy of the United States;

(4) assess whether the capital, technical and other resources being allocated to domestic industrial sectors which are likely to generate new technologies are adequate to meet private and social demands for goods and services and to promote productivity and economic growth;

(5) propose and support studies and policy experiments, in cooperation with other Federal agencies, to determine the effectiveness of measures with the potential of advancing United States technological innovation;

(6) provide that cooperative efforts to stimulate industrial innovation be undertaken between the [Director] *Assistant Secretary* and other officials in the Department of Commerce responsible for such areas as trade and economic assistance;

(7) consider government measures with the potential of advancing United States technological innovation and exploiting innovations of foreign origin; and

(8) publish the results of studies and policy experiments.

(d) REPORT.—The Secretary shall prepare and submit to the President and Congress, within 3 years after the date of enactment of this Act, a report on the progress, findings, and conclusions of activites conducted pursuant to sections 5, 6, 8, 11, 12, and 13 of this Act *(as then in effect)* and recommendations for possible modifications thereof.

[SEC. 6. CENTERS FOR INDUSTRIAL TECHNOLOGY.] ***SEC. 6. COOPERATIVE RESEARCH CENTERS.***

(a) ESTABLISHMENT.—The Secretary shall provide assistance for the establishment of [Centers for Industrial Technology.] *Cooperative Research Centers.* Such Centers shall be affiliated with any university, or other nonprofit institution, or group thereof, that ar-

[(A) the Center reports the invention to the supporting agency together with a list of each country in which the Center elects to file a patent application on the invention;

[(B) said option shall be exercised at the time of disclosure of invention or within such time thereafter as may be provided in the grant or cooperative agreement;

[(C) the Center intends to promote the commercialization of the invention and file a United States patent application;

[(D) royalties be used for compensation of the inventor or for educational or research activities of the Center;

[(E) the Center make periodic reports to the supporting agency, and the supporting agency may treat information contained in such reports as privileged and confidential technical, commercial, and financial information and not subject to disclosures under the Freedom of Information Act; and

[(F) any Federal department or agency shall have the royalty-free right to practice, or have practiced on its behalf, the invention for governmental purposes.

The supporting agency shall have the right to acquire title to any patent on an invention in any country in which the Center elects not to file a patent application or fails to file within a reasonable time.

[(2) Where a Center has retained title to an invention under paragraph (1) of this subsection the supporting agency shall have the right to require the Center or its licensee to grant a nonexclusive, partially exclusive, or exclusive license to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, if the supporting agency determines, after public notice and opportunity for hearing, that such action is necessary—

[(A) because the Center or licensee has not taken and is not expected to take timely and effective action to achieve practical application of the invention;

[(B) to meet health, safety, environmental, or national security needs which are not reasonably satisfied by the contractor or licensee; or

laws. The Attorney General shall advise the supporting agency of his determination and the reasons for it within 120 days after receipt of such request.]

* * * * * * *

SEC. 8. NATIONAL SCIENCE FOUNDATION [CENTERS FOR INDUSTRIAL TECHNOLOGY.] *COOPERATIVE RESEARCH CENTERS.*

(a) ESTABLISHMENT AND PROVISIONS.—The National Science Foundation shall provide assistance for the establishment of [Centers for Industrial Technology] *Cooperative Research Centers*. Such Centers shall be affiliated with a university, or other nonprofit institution, or a group thereof. The objective of the Centers is to enhance technological innovation as provided in section 6(a) through the conduct of activities as provided in section 6(b). [The provisions of sections 6(e) and 6(f) shall apply to Centers established under this section.]

* * * * * * *

SEC. 9. ADMINISTRATIVE ARRANGEMENTS.

(a) * * *

* * * * * * *

(d) COOPERATIVE EFFORTS.—The Secretary and the National Science Foundation shall, on a continuing basis, provide each other the opportunity to comment on any proposed program of activity under section 6, 8, or [13] *12* of this Act before funds are committed to such program in order to mount complementary efforts and avoid duplication.

SEC. 10. NATIONAL INDUSTRIAL TECHNOLOGY BOARD.

[(a) ESTABLISHMENT.—There shall be established a committee to be known as the National Industrial Technology Board.

[(b) DUTIES.—The Board shall take such steps as may be necessary to review annually the activities of the Office and advise the Secretary and the Director with respect to—

[(1) the formulation and conduct of activities under section 5

or training are especially qualified in one or more of the disciplines and fields dealing with technology, labor, and industrial innovation or who are affected by technological innovation. The majority of the members of the Board shall be individuals from industry and business.

[(2) The term of office of a voting member of the Board shall be 3 years, except that of the original appointees, five shall be appointed for a term of 1 year, five shall be appointed for a term of 2 years, and five shall be appointed for a term of 3 years.

[(3) Any individual appointed to fill a vacancy occurring before the expiration of the term for which his or her predecessor was appointed shall be appointed only for the remainder of such term. No individual may be appointed as a voting member after serving more than two full terms as such a member.

[(4) The Board shall select a voting member to serve as the Chairperson and another voting member to serve as the Vice Chairperson. The Fice Chairperson shall perform the functions of the Chairperson in the absence or incapacity of the Chairperson.

[(5) Voting members of the Board may receive compensation at a daily rate for GS–18 of the General Schedule under section 5332 of title 5, United States Code, when actually engaged in the performance of duties for such Board, and may be reimbursed for actual and reasonable expenses incurred in the performance of such duties.]

SEC. [11.] *10.* UTILIZATION OF FEDERAL TECHNOLOGY.

(a) POLICY.—*(1)* It is the continuing responsibility of the Federal Government to ensure the full use of the results of the Nation's Federal investment in research and development. To this end the Federal Government shall strive where appropriate to transfer federally owned or originated technology to State and local governments and to the private sector.

full-time equivalent positions as staff for its Office of Research and Technology Applications, and (2) after September 30, 1981, each Federal agency which operates or directs one or more Federal laboratories shall make available not less than 0.5 percent of the agency's research and development budget to support the technology transfer function at the agency and at its laboratories, including support of the Offices of Research and Technology Applications. *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;* The agency head may waive the [requirements set forth in (1) and/or (2) of this subsection] *requirement set forth in clause (2) of the preceding sentence.* If the agency head waives [either requirement (1) or (2),] *such requirement,* the agency head shall submit to Congress at the time the President submits the budget to Congress an explanation of the reasons for the waiver and alternate plans for conducting the technology transfer function at the agency.

(c) FUNCTIONS OF RESEARCH AND TECHNOLOGY APPLICATIONS OFFICES.—It shall be the function of each Office of Research and Technology Applications—

[(1) to prepare an application assessment of each research and development project in which that laboratory is engaged which has potential for successful application in State or local government or in private industry;]

(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 commerical applications;

(2) to provide and disseminate information on *all* federally owned or originated products, processes, and services having potential application to State and local governments and to

Center for the Utilization of Federal Technology. The Center for the Utilization of Federal Technology shall—]

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

(1) serve as a central clearinghouse for the collection, dissemination and transfer of information on federally owned or originated technologies having potential application to State and local governments and to private industry;

[(2) coordinate the activities of the Offices of Research and Technology Applications of the Federal laboratories;]

[(3)] *(2)* utilize the expertise and services of the National Science Foundation and the [existing] Federal Laboratory Consortium for Technology Transfer; particularly in dealing with State and local governments;

[(4) receive requests for technical assistance from State and local governments and refer these requests to the appropriate Federal laboratories;]

(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 need a response involving more than the published information available to the Service;

[(5)]*(4)* provide funding, at the discretion of the Secretary, for Federal laboratories to provide the assistance specified in subsection [(c)(4);] *(c)(3);* and

[(6)]*(5)* use appropriate technology transfer mechanisms such as personnel exchanges and computer-based systems.

(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 shall be within the National Science Foundation and which, in cooperation with Federal laboratories and the private sector, shall—

(iii) 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 technical volunteer service programs for the purpose of providing technical assistance to communites 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; and

(I) establish advisory committees in each Federal laboratory consortium region composed of representatives from State and local governments, large and small business, universities, and other appropriate persons to advise on the effectiveness of the program (and the members of any such advisory committee shall serve 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.

transferred by such agency to the National Science Foundation at the beginning of the fiscal year involved. Amounts so transferred shall be provided by the Foundation to the Consortium for the purpose of carrying out activities of the Consortium under this subsection.

(B) A transfer may 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, are authorized to provide such additional support for operations of the Consortium as they deem appropriate.

[(e)]*(f)* AGENCY REPORTING.—Each Federal agency which operates or directs one or more Federal laboratories shall [prepare biennially a report summarizing] *report annually to the Congress, as part of the agency's annual budget submission, on* the activities performed by that agency and its Federal laboratories pursuant to the provisions of this section. [The report shall be transmitted to the Center for the Utilization of Federal Technology by November 1 of each year in which it is due.]

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

(1) 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;

(2) develop and disseminate to appropriate agency and laboratory personnel model provisions for use on a voluntary basis in

(1) to grant or agree to grant in advance, to a collaborating party, patent licenses or assignments, or options thereto, in any invention made by a Federal employee, or made jointly by a Federal employee and an employee of the collaborating party, under the agreement, retaining such rights as the Federal laboratory deems appropriate; and

(2) to waive in advance, in whole or in part, any right of ownership which the Federal Government may have to any subject invention made by a collaborating party or employee of a collaborating party under the agreement.

(c) AGENCY PLAN.—(1)(A) Within 180 days after the election by any Federal agency to implement subsection (a), revised regulations or instructions for that agency's cooperative research and development program shall be drafted or modified. The revised regulations or instructions need not apply to cooperative agreements entered into prior to the effective date of such regulations or instructions. Such revised regulations or instructions shall—

(i) if they give the head of the agency or his designee an opportunity to disapprove or require the modification of any such agreement, provide a 30-day period beginning on the date the agreement is presented to him or her by the head of the laboratory concerned within which such action must be taken;

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

(iii) 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 invention will be manufactured substantially in the United States;

(iv) establish employee standards of conduct for resolving potential conflicts of interest, including but not limited to cases where present or former employees or their partners negotiate licenses or assignments of titles to inventions or negotiate cooper-

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 agency; except that such term does not include a procurement contract as that term is used in section 6303 of title 31, United States Code, or a cooperative agreement as that term is used in section 6305 of such title.

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

SEC. 12. 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. 13. DISTRIBUTION OF ROYALTIES RECEIVED BY FEDERAL AGENCIES.

(a) IN GENERAL.—(1) Except as provided in paragraph (2), any royalties or other income received by a Federal agency from the licensing or assignment of inventions under agreements entered into under section11, and from 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

award to which he is otherwise entitled or for which he is otherwise eligible or limit the amount thereof;

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

(D) for scientific research and development, for education and training of employees of that 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 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 subparagraphs (A) through (C) of paragraph (1) 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.

(b) CERTAIN ASSIGNMENTS.—In the event that the invention involved was one assigned to the Federal agency—

(1) by a contractor, grantee, or party to a cooperative agreement with the agency, or

(2) by an employee of the agency who was not working in a Government-operated laboratory at the time the invention was made,

the agency unit that funded or employed the entity that made such assignment shall be considered to be a Government-operated laboratory for purposes of this section.

(c) REPORTS.—In making their annual budget submissions Federal agencies shall submit, to the appropriate authorization and ap-

SEC. [13.] *15.* PERSONNEL EXCHANGES.

The Secretary and the National Science Foundation, jointly, shall establish a program to foster the exchange of scientific and technical personnel among academia, industry, and Federal laboratories. Such program shall include both (1) federally supported exchanges and (2) efforts to stimulate exchanges without Federal funding.

SEC. [14.] *16.* AUTHORIZATION OF APPROPRIATIONS.

(a) There is authorized to be appropriated to the Secretary for purposes of carrying out section 6, not to exceed $19,000,000 for the fiscal year ending September 30, 1981, $40,000,000 for the fiscal year ending September 30, 1982, $50,000,000 for the fiscal year ending September 30, 1983, and $60,000,000 for each of the fiscal years ending September 30, 1984, and 1985.

(b) In addition to authorizations of appropriations under subsection (a), there is authorized to be appropriated to the Secretary for purposes of carrying out the provisions of this Act, not to exceed $5,000,000 for the fiscal year ending September 30, 1981, $9,000,000 for the fiscal year ending September 30, 1982, and $14,000,000 for each of the fiscal years ending September 30, 1983, 1984, and 1985.

(c) Such sums as may be appropriated under subsections (a) and (b) shall remain available until expended.

(d) To enable the National Science Foundation to carry out its powers and duties under this Act only such sums may be appropriated as the Congress may authorize by law.

SEC. [15.] *17.* SPENDING AUTHORITY.

No payments shall be made or contracts shall be entered into pursuant to this Act except to such extent or in such amounts as are provided in advance in appropriation Acts.

SECTION 210 OF TITLE 35, UNITED STATES CODE

99TH CONGRESS
2d Session | HOUSE OF REPRESENTATIVES | REPORT
99-953

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

"(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 agree-

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

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

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 [illegible]

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.

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

(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.

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

"(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).

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

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).