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Series: Bromley, D. Allan, Files
Subseries: General Science Files

OA/ID Number: 62037
Folder ID Number: 62037-012

Folder Title:
Industrial Technology Transfer [1991]

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"Document Control"

TYPE: INFORMATION DOCUMENT NUMBER: 9125047
ORIGINATOR: 02 STATUS C DIRECTORATE STATUS

FROM: CRANBERG, Lawrence: LOS ALAMOS LABORATORY

TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 12/01/91

SUBJECT: HE IS FORWARDING A COPY OF HIS LETTER TO THE EDITOR
OF THE SANTA FE NEW MEXICAN REGARDING COLLABORATION
BETWEEN THE FEDERAL GOVERNMENT AND INDUSTRY, AS WELL
A COPY OF A LETTER FROM N.E. BRADBURY REGARDING DR.
CRANBERGS RESIGNATION FROM LOS ALAMOS.

DIRECTORATE STAFF
ASSIGNED: ASSIGNED:

ACTION STAFF
REQUIRED: ACTION:

SENDER'S DUE DATE:
OSTP DUE DATE: STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

COPIES TO: D. Allan Bromley
INDUSTRIAL

WHITE HOUSE TRACKING #: CONTACT PERSON:
REMARKS: PHONE: EXT:

OSTP RECEIVED: 12/06/91 DEPT RECEIVED:
FILE: P-INDUSTRIAL-TECHNOLOGY TRANSFER
CENTRAL FILES:

5047

LAWRENCE CRANBERG, PH.D.
CONSULTING PHYSICIST

1205 CONSTANT SPRINGS DRIVE
AUSTIN, TEXAS 78746

TELEPHONE AND FAX
(512) 327-1794

91 DEC 6 A10: 29

Walter Friedenber, Executive Editor,
The Santa Fe New Mexican,
Op Ed or Letters,
202 East Marcy St.,
Santa Fe, NM 87501-2048

OSTP
MAIL ROOM

Dec. 1, 1991

Re: The Hidden Silicon-Valley-in-the-Mountains

Dear Editor,

The editorial you reprinted on November 30 from The Washington Post, "America as Competitor", proposes to improve competitiveness by developing "more vigorous partnerships between industry and the federal government in research and development".

As a former Los Alamos Staff Member who has tried for 20 years to do just that with the Los Alamos National Laboratory in the area of neutron generators for cancer treatment, and has utterly failed, I view that proposal with a skeptical eye. To be sure my ideas may be worthless and may have been validly rejected. But as I strolled around Santa Fe after an absence of 20 years, and observed the bustle in its shops and galleries, I looked in vain for evidence of spin-off industry from the non-weapons programs at nearby Los Alamos, on which the government lavishes half a billion dollars per year.

I was told that Santa Fe is a market for about 700 artists. The staff at Los Alamos is about 7,400, half of them doing non-weapons work. If those two groups of creative workers were contributing with comparable efficiency to the national economy, wouldn't Santa Fe be teeming with hi-tech spin-off industry, as well as art shops and galleries?

The hi-tech spin-off in Santa Fe-Los Alamos is barely visible. The idea of government-industry collaboration may be sound, but its fruits are not evident in Central New Mexico, where the federal government has been spending billions on every conceivable non-weapons program for forty years. If the recommendations of The Washington Post were correct, we would have a Silicon-Valley-in-the-Mountains. Where is it hidden?

Sincerely yours,
Lawrence Cranberg
Lawrence Cranberg

cc: Dr. D. Allan Bromley, Science Adviser to President Bush;
Keith Easthouse, The Santa Fe New Mexican; Editor, The Washington Post.

UNIVERSITY OF CALIFORNIA
LOS ALAMOS SCIENTIFIC LABORATORY
(CONTRACT W-7405-ENG-36)
P.O. Box 1663
LOS ALAMOS, NEW MEXICO

IN REPLY
REFER TO: Dir

September 9, 1964

Dr. Lawrence Cranberg
Los Alamos Scientific Laboratory
Los Alamos, New Mexico

Dear Larry:

I am terribly sorry to receive your memorandum of August 28th which indicates your intention to resign from Los Alamos to enter academic life. While I am sure the country (and Los Alamos) will ultimately derive great benefits from the strengthening of academic centers by senior scientific personnel and the good students they will train, nevertheless the immediate loss to Los Alamos is certainly very great. We should all be very happy if you were to change your mind!

Unfortunately, I am not in a position to agree to possible Leaves of Absence for more than one year. We have done this on rare occasions at the request of the government for personnel in some form of government service. Moreover, as you point out, extended leaves of absence are one way IOU's - we make a promise but the individual does not. There are many other practical reasons: personnel ceiling points have to be carried open or filled on a temporary basis; administrative arrangements during the leave period have to be on an "acting" basis which is unfair to the "acting" individual when too much time is involved; and similar problems.

May I suggest that the matter is fairly trivial anyway in the case of a person like yourself. If, after another year or at any time, you find yourself disenchanted with the academic world, please write to us or give us a call. I am sure we can work something out if you are interested in returning. I really do not believe that you are burning any bridges very seriously!

Again, I am really sorry to hear of your decision - I would be happy to just tear up your memorandum and forget the whole thing!

Sincerely,


N. E. Bradbury
Director

NEB/rb

cc: R. F. Taschek

"Document Control"

TYPE: INFORMATION

DOCUMENT NUMBER: 9124723

ORIGINATOR: 02

STATUS C

DIRECTORATE STATUS

FROM: ANTONOVICH, Michael D.: COUNTY OF LOS ANGELES

TO: PRESIDENT BUSH

DATE OF
CORRESPONDENCE: 10/30/91

SUBJECT: HE IS FORWARDING A COPY OF A LETTER HE SENT TO
PRESIDENT BUSH REGARDING THE DEVELOPMENT OF
TECHNOLOGY TRANSFER PROGRAMS THAT WERE PRESENTED TO
THE WHITE HOUSE SCIENCE ADVISORY STAFF 09/10/91.

DIRECTORATE
ASSIGNED:

STAFF
ASSIGNED:

ACTION
REQUIRED:

STAFF
ACTION:

SENDER'S DUE DATE:

OSTP DUE DATE:
DATE COMPLETED:

STAFF DUE DATE
DATE COMPLETED/DEPT:

COPIES TO: D. Allan Bromley
INDUSTRIAL

WHITE HOUSE TRACKING #:

CONTACT PERSON:
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EXT:

REMARKS:

OSTP RECEIVED: 11/12/91 DEPT RECEIVED:
FILE: P-INDUSTRIAL-TECHNOLOGY TRANSFER

CENTRAL FILES:



Board of Supervisors County of Los Angeles

9124723
91 NOV 12 A10:11

MICHAEL D. ANTONOVICH
CHAIRMAN OF THE BOARD
SUPERVISOR FIFTH DISTRICT

OFFICE OF THE
DIRECTOR

October 30, 1991

The President
The White House
Washington, D.C. 20500

Dear Mr. President:

NATIONAL ASSOCIATION OF COUNTIES (NACo) TECHNOLOGY TRANSFER PROJECT

The County of Los Angeles was delighted and honored to participate with NACo in developing three technology transfer proposals which were presented to your White House science advisory staff on September 10, 1991. If implemented, these proposals would bring significant benefits to counties nationwide, and we urge your support for this joint effort.

The successful application of technology during Operation Desert Storm prompted counties to look to the Federal Government for possible sharing of technology in critical areas of concern to local governments. Two of the three proposals selected by NACo for presentation to your Office of Science and Technology Policy were developed by Los Angeles County. These were for positive identification and multilingual translation systems technology, both of which would be of immense benefit to the effectiveness of County operations and service to the public.

Your support for a partnership effort is essential to the success of these proposals. We look forward to a successful joint venture.

Sincerely,

MICHAEL D. ANTONOVICH
Chairman of the Board
Supervisor, Fifth District

- c: Debra R. Anderson, Office of Intergovernmental Affairs
D. Allan Bromley, Office of Science and Technology Policy
Each Supervisor

nacotec2.lbs

"CORRESPONDENCE TRACKING"

TYPE: INFORMATION

DOCUMENT NUMBER: 9123862

ORIGINATOR: 02

STATUS C

DIRECTORATE STATUS

FROM: SCHMID, Loren C.: FEDERAL LABORATORY CONSORTIUM

TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 08/29/91

SUBJECT: A COPY OF THE FLC DOCUMENT, "TECHNOLOGY INNOVATION".

DIRECTORATE

ASSIGNED:

STAFF

ASSIGNED:

ACTION
REQUIRED:

STAFF
ACTION:

SENDER'S DUE DATE:

OSTP DUE DATE:

STAFF DUE DATE

DATE COMPLETED:

DATE COMPLETED/DEPT:

COPIES TO: D. Allan Bromley
INDUSTRIAL

WHITE HOUSE TRACKING #:

CONTACT PERSON:

PHONE:

EXT:

REMARKS: Enclosure to DAB.

OSTP RECEIVED: 09/03/91
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FILE: *P* INDUSTRIAL-TECHNOLOGY TRANSFER



Federal Laboratory Consortium

RECEIVED

91 SEP 3 AM 11:57

OFFICE OF THE
DIRECTOR

August 29, 1991

The Honorable D. Allan Bromley
Director, Office of Science and Technology Policy
Executive Office of the President
Old Executive Office Building
Washington, DC 20506

Dear Dr. Bromley:

The FLC is providing the document *Technology Innovation* to meet the need for a consolidation of technology innovation legislation from the Stevenson-Wydler Technology Innovation Act of 1980 (PL 96-480) through the Defense Authorization Act for FY 1991 (PL 191-510). We are distributing this document to a number of agency, laboratory, and industry people. We trust it will be a very useful tool for understanding the opportunities available for domestic technology transfer.

We hope that you will find this FLC document of value to you in your technology transfer program.

Sincerely,

Loren C. Schmid

Loren C. Schmid
Chairman

LCS:llp

Enclosure

FLC CHAIRMAN

Pacific Northwest Laboratory

• P.O. Box 999 - MS K1-34 •

Richland, WA 99352

DR. LOREN C. SCHMID

• (509) 375-2559



TECHNOLOGY INNOVATION

CHAPTER 63

UNITED STATES CODE ANNOTATED
TITLE 15, COMMERCE AND TRADE

SECTIONS 3701-3715

(AS AMENDED THROUGH 1990 PUBLIC LAW
AND WITH ANNOTATIONS)

PREPARED FOR:
THE FEDERAL LABORATORY CONSORTIUM
FOR TECHNOLOGY TRANSFER

By:
WEST PUBLISHING CO.

THE WHITE HOUSE
WASHINGTON

September 20, 1991

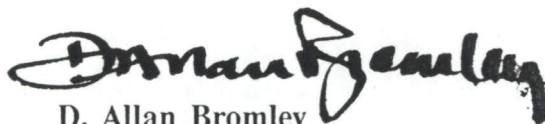
Dear Dr. Schmid:

Many thanks for sending me a copy of **Technology Innovation**. This is a vitally important area and you and your colleagues are to be congratulated for the work that you have done in putting out this new statement concerning a vitally important aspect of our utilization of the tremendous resource that is represented by our national laboratories.

My staff and I have already found this to be an extremely useful document and it is one that I am sure will become substantially dog-eared from continued use in the future.

With all best wishes,

Sincerely yours,

A handwritten signature in dark ink, appearing to read "D. Allan Bromley", written in a cursive style.

D. Allan Bromley
The Assistant to the President
for
Science and Technology

Dr. Loren C. Schmid
Chairman
Federal Laboratory Consortium
Pacific Northwest Laboratory
Post Office Box 999 - MS K1-34
Richland, Washington 99352



TECHNOLOGY INNOVATION

CHAPTER 63

UNITED STATES CODE ANNOTATED
TITLE 15, COMMERCE AND TRADE

SECTIONS 3701-3715

(AS AMENDED THROUGH 1990 PUBLIC LAW
AND WITH ANNOTATIONS)

PREPARED FOR:
THE FEDERAL LABORATORY CONSORTIUM
FOR TECHNOLOGY TRANSFER

By:
WEST PUBLISHING CO.

TECHNOLOGY INNOVATION

**CHAPTER 63
UNITED STATES CODE ANNOTATED**

**TITLE 15
COMMERCE AND TRADE**

SECTIONS 3701 TO 3715

**(As Amended Through 1990 Public Laws
and with Annotations)**

Prepared for:

**THE FEDERAL LABORATORY CONSORTIUM
FOR TECHNOLOGY TRANSFER**

By:

**WEST PUBLISHING COMPANY
St. Paul, Minnesota**

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FROM INNOVATION TO APPLICATION

New knowledge, processes, and products emerge from research and development programs at federal laboratories. Through technology transfer, the laboratories share the benefits of national investments in scientific progress with all segments of society. Through this process, technologies and technical capabilities developed for federal departments and agencies are put to work, applied to the needs of U.S. business, industry, and state and local governments.

The Stevenson-Wydler Technology Innovation Act of 1980 initiated legislation that made it easier for the laboratories to transfer their technologies and provided means of access to laboratory developments. Since then, other initiatives have been included in legislation that modify and improve the original legislation. Chapter 63 of Title 15 of the United States Code Annotated comprises most of the relevant legislation, executive orders, and references. A section, Technology Innovation Legislation Highlights, is included in this document along with Chapter 63. The highlights give a historical view of the legislation included in Chapter 63 and other related technology innovation legislation.

The Federal Laboratory Consortium for Technology Transfer (FLC) is providing this document in order to ease the job of those working the technology transfer process. The FLC evolved over a period of 20 years. The evolution occurred with the help of the government initiatives and culminated in formal chartering of the organization as a Tier III Federal Agency by the Federal Technology Transfer Act of 1986.

The Consortium members include all major federal R&D laboratories and centers and their parent departments; over 500 laboratories and centers representing 16 different departments. Each laboratory and department assigns a representative to the Consortium.

The FLC promotes and facilitates the transfer of research and development results from federal laboratories into applications in the private and public sectors, as well as collaborative technology development by industry, laboratories and universities. Its strengths are:

- ◆ The dedicated efforts of individual Representatives acting for their laboratories and departments
- ◆ A flexible organization that responds rapidly to new opportunities

FROM INNOVATION TO APPLICATION

- ◆ A network of people with a breadth of contacts—geographically and professionally
- ◆ Direct linkage with the massive federal research and development resources
- ◆ Decentralized grass-roots efforts to promote the opportunity at state and local levels

The FLC creates an environment that adds value to and supports its member laboratory and department or agency technology transfer efforts. A coordinated program directed at meeting the needs of FLC members and the needs of their potential partners provides the added value.

For industry and other technology seekers, the FLC serves as a point of entry to federal laboratory expertise and technology. Through its network of representatives, the FLC has the ability to put a potential partner in contact with a federal laboratory with expertise and capability in a specific area of interest.

Besides creating a technology transfer environment, the FLC develops and tests transfer methods, addresses barriers to the process, highlights grass-roots transfer efforts, provides training, and emphasizes national initiatives where technology transfer has a role.

The Federal Laboratory Consortium for Technology Transfer hopes this consolidation of technology innovation legislation serves as a useful tool for understanding the opportunities available for technology transfer.

Dr. Loren C. Schmid, Chairman
Federal Laboratory Consortium

For more information about the
FLC contact:

FLC Administrator
P.O. Box 545
Sequim, WA 98382-0545
(206) 683-1005

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Technology Innovation Legislation Highlights

Prepared by the FLC

Stevenson-Wydler Technology Innovation Act of 1980 (Public Law 96-480)

- ◆ Focused on dissemination of information.
- ◆ Required Federal Laboratories to take an active role in technical cooperation.
- ◆ Established Offices of Research and Technology Application at major federal laboratories.
- ◆ Established the Center for the Utilization of Federal Technology (in the National Technical Information Service).

Bayh-Dole Act of 1980 (Public Law 96-517)

- ◆ Permitted universities, not-for-profits, and small businesses to obtain title to inventions developed with governmental support.
- ◆ Allowed government-owned, government-operated (GOGO) laboratories to grant exclusive licenses to patents.

Small Business Innovation Development Act of 1982 (Public Law 97-219)

- ◆ Required agencies to provide special funds for small business R&D connected to the agencies' missions.

Cooperative Research Act of 1984 (Public Law 98-462)

- ◆ Eliminated treble damage aspect of antitrust concerns of companies wishing to pool research resources and engage in joint precompetitive R&D.
- ◆ Resulted in Consortia: Semiconductor Research Corporation (SEMATECH) and Microelectronics and Computer Technology Corporation (MCC), among others.

Technology Innovation Legislation Highlights

Trademark Clarification Act of 1984 (Public Law 98-620)

- ◆ Permitted decisions to be made at the laboratory level in government-owned, contractor-operated (GOCO) laboratories as to the awarding licenses for patents.
- ◆ Permitted contractors to receive patent royalties for use in R&D, awards, or for education.
- ◆ Permitted private companies, regardless of size, to obtain exclusive licenses.
- ◆ Permitted laboratories run by universities and non-profit institutions to retain title to inventions within limitations.

Japanese Technical Literature Act of 1986 (Public Law 99-382)

- ◆ Improved the availability of Japanese science and engineering literature in the U.S.

Federal Technology Transfer Act of 1986 (Public Law 99-502)

- ◆ Made technology transfer a responsibility of all federal laboratory scientists and engineers.
- ◆ Mandated that technology transfer responsibility be considered in employee performance evaluations.
- ◆ Established principle of royalty sharing for federal inventors (15% minimum) and set up a reward system for other innovators.
- ◆ Created a charter for Federal Laboratory Consortium for Technology Transfer and provided a funding mechanism for that organization to carry out its work.
- ◆ Provided specific requirements, incentives and authorities for the Federal Laboratories.
- ◆ Empowered each agency to give the director of GOCO laboratories authority to enter into cooperative R&D agreements and negotiate licensing agreements with streamlined headquarters review.
- ◆ Allowed laboratories to make advance agreements with large and small companies on title and license to inventions resulting from Cooperative R&D Agreements (CRDAs) with government laboratories.

Technology Innovation Legislation Highlights

- ◆ Allowed Directors of GOGO laboratories to negotiate licensing agreements for inventions made at their laboratories.
- ◆ Provided for exchanging GOGO laboratory personnel, services, and equipment with their research partners.
- ◆ Made it possible to grant and waive rights to GOGO laboratory inventions and intellectual property.
- ◆ Allowed current and former federal employees to participate in commercial development, to the extent there is no conflict of interest.

Malcom Baldrige National Quality Improvement Act of 1987 (Public Law 100-107)

- ◆ Established categories and criteria for the Malcom Baldrige National Industry Award.

Executive Orders 12591 and 12618 (1987): Facilitating Access to Science and Technology

- ◆ Promoted the commercialization of science and technology.

Omnibus Trade and Competitiveness Act of 1988 (Public Law 100-418)

- ◆ Placed emphasis on the need for public/private cooperation on assuring full use of results of resources.
- ◆ Established centers for transferring manufacturing technology.
- ◆ Established Industrial Extension Services within states and an information clearinghouse on successful state and local technology programs.
- ◆ Changed the name of the National Bureau of Standards to the National Institute of Standards and Technology and broadened its technology transfer role.
- ◆ Extended royalty payment requirements to non-government employees of federal laboratories.
- ◆ Authorized Training Technology Transfer centers administered by the Department of Education.

Technology Innovation Legislation Highlights

National Institute of Standards and Technology Authorization act for FY 1989 (Public Law 100-519)

- ◆ Reconstituted The National Technical Information Services as the National Technical Information Corporation.
- ◆ Assigned functions and operations of the National Technical Information Service.
- ◆ Established a Technology Administration within the Department of Commerce.
- ◆ Permitted contractual consideration for rights to intellectual property other than patents in cooperative research and development agreements.
- ◆ Included software development contributors eligible for awards.
- ◆ Clarified the rights of guest worker inventors regarding royalties.

Water Resources Development Act of 1988 (Public Law 100-676)

- ◆ Authorized Army Corps of Engineers laboratories and research centers to enter into cooperative research and development agreements.

National Competitiveness Technology Transfer Act of 1989 (Public Law 101-189) (included as Section 3131 et seq. of DOD Authorization Act for FY 1990)

- ◆ Granted GOCO federal laboratories opportunities to enter into CRDAs and other activities with universities and private industry, under essentially the same ways as highlighted under the Federal Technology Transfer Act of 1986.
- ◆ Allowed information and innovations, brought into, and created through cooperative agreements to be protected from disclosure.
- ◆ Provided a technology transfer mission for the nuclear weapons laboratories.

Defense Authorization Act for FY 1991 (Public Law 101-510)

- ◆ Established model programs for national defense laboratories to demonstrate successful relationships between federal government, state and local governments, and small businesses.

Technology Innovation Legislation Highlights

- ◆ Provided for a federal laboratory to enter into a contract or memorandum of understanding with a partnership intermediary to perform services related to cooperative or joint activities with small businesses.
- ◆ Provided for development and implementation of a National Defense Manufacturing Technology Plan.

*

Chapter 63

Title 15, U.S.C.A.

Stevenson-Wydler Technology Innovation Act of 1980 as amended through 1990

Pub.L. No.	Date Appr.	Stat. At Large	15 U.S.C.A. §§
96-480-----	10/21/80 -----	94 Stat. 2311-----	3701 to 3714
99-382, § 2-----	8/14/86 -----	100 Stat. 811-----	3704
99-502, §§ 2 to 9(b), (d), (e), (f)-----	10/20/86 -----	100 Stat. 1785 to 1787 -----	3701 to 3705, 3707 to 3710d, 3711 to 3714
100-107, § 3 -----	8/20/87 -----	101 Stat. 725-----	3708, 3711a, 3712, 3713, 3714
100-418, §§ 5115(b), 5122, 5152, 5162(1), (3)-----	8/23/88 -----	102 Stat. 1433, 1437, 1449-----	3703, 3704a, 3705 to 3710c, 3711, 3711a, 3712 to 3714
100-519, §§ 201(a) to (d)(1), 3, 212(a)(4), 301 to 303(a)-----	10/24/88 -----	102 Stat. 2593, 2594, 2597-----	3703, 3704, 3710, 3710a to 3710c
101-189, § 3133-----	11/29/89 -----	103 Stat. 1675 to 1679-----	3710, 3710a, 3710c
101-510, §§ 827a, 827b, 828(b)-----	11/5/90 -----	104 Stat. 1606, 1607 -----	3705, 3710a, 3715

*

THE CODE OF THE LAWS OF THE UNITED STATES OF AMERICA

TITLE 15 COMMERCE AND TRADE CHAPTER 63—TECHNOLOGY INNOVATION

As amended through December 31, 1990

- Sec.**
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 - 3703. Definitions.
 - 3704. Commerce and technological innovation.
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 - (b) Under Secretary and Assistant Secretary.
 - (c) Duties.
 - (d) Report.
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 - (d) Triennial report.
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- 3706. Grants and cooperative agreements.
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- 3707. National Science Foundation Cooperative Research Centers.
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 - (b) Duties.
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 - (c) Functions of Research and Technology Applications Offices.
 - (d) Dissemination of technical information.
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 - (f) Agency reporting.
 - (g) Functions of Secretary.
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- 3710c. Distribution of royalties received by Federal agencies.
 - (a) In general.
 - (b) Certain assignments.
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- 3710d. Employee activities.
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 - (c) Categories in which award may be given.
 - (d) Criteria for qualification.
 - (e) Information and technology transfer program.
 - (f) Funding.

Sec.

- 3711a. Malcolm Baldrige National Quality Award.
 - (g) Report.
- 3712. Personnel exchanges.
- 3713. Authorization of appropriations.
- 3714. Spending authority.
- 3715. Use of partnership intermediaries.
 - (a) Authority.
 - (b) Partnership progress reports.
 - (c) Definition.

§ 3701. Findings

The Congress finds and declares that:

(1) Technology and industrial innovation are central to the economic, environmental, and social well-being of citizens of the United States.

(2) Technology and industrial innovation offer and improved standard of living, increased public and private sector productivity, creation of new industries and employment opportunities, improved public services and enhanced competitiveness of United States products in world markets.

(3) Many new discoveries and advances in science occur in universities and Federal laboratories, while the application of this new knowledge to commercial and useful public purposes depends largely upon actions by business and labor. Cooperation among academia, Federal laboratories, labor, and industry, in such forms as technology transfer, personnel exchange, joint research projects, and others, should be renewed, expanded, and strengthened.

(4) Small businesses have performed an important role in advancing industrial and technological innovation.

(5) Industrial and technological innovation in the United States may be lagging when compared to historical patterns and other industrialized nations.

(6) Increased industrial and technological innovation would reduce trade deficits, stabilize the dollar, increase productivity gains, increase employment, and stabilize prices.

(7) Government antitrust, economic, trade, patent, procurement, regulatory, research and development, and tax policies have significant impacts upon industrial innovation and development of technology, but there is insufficient knowledge of their effects in particular sectors of the economy.

(8) No comprehensive national policy exists to enhance technological innovation for commercial and public purposes. There is a need for such a policy, including a strong national policy supporting domestic technology transfer and utilization

of the science and technology resources of the Federal Government.

(9) It is in the national interest to promote the adaptation of technological innovations to State and local government uses. Technological innovations can improve services, reduce their costs, and increase productivity in State and local governments.

(10) The Federal laboratories and other performers of federally funded research and development frequently provide scientific and technological developments of potential use to State and local governments and private industry. These developments, which include inventions, computer software, and training technologies, should be made accessible to those governments and industry. There is a need to provide means of access and to give adequate personnel and funding support to these means.

(11) The Nation should give fuller recognition to individuals and companies which have made outstanding contributions to the promotion of technology or technological manpower for the improvement of the economic, environmental, or social well-being of the United States.

(Pub.L. 96-480, § 2, Oct. 21, 1980, 94 Stat. 2311; Pub.L. 99-502, § 9(f)(1), Oct. 20, 1986, 100 Stat. 1797.)

Historical and Statutory Notes

1986 Amendment. Par. (10). Pub.L. 99-502, § 9(f)(1), inserted “, which include inventions, computer software, and training technologies,” after “These developments”.

Short Title of 1989 Amendment. Pub.L. 101-189, Div. C, Title XXXI, § 3131, Nov. 29, 1989, 103 Stat. 1674, provided that: “This part [amending sections 3710, 3710a, and 3710c of this title and enacting provisions set out as notes under this section and section 3710a of this title] may be cited as the ‘National Competitiveness Technology Transfer Act of 1989.’”

Short Title of 1988 Amendment. Pub.L. 100-519, § 211, Oct. 24, 1988, 102 Stat. 2594, provided that: “This subtitle [enacting section 3704b of this title] may be cited as the ‘National Technical Information Act of 1988.’”

Short Title of 1987 Amendment. Pub.L. 100-107, § 1, Aug. 20, 1987, 101 Stat. 724, provided that: “This Act [enacting section 3711a of this title, amending section 3708 of this title, and enacting a provision set out as a note under section 3711a of this title] may be cited

as the ‘Malcolm Baldrige National Quality Improvement Act of 1987.’”

Short Title of 1986 Amendments. Section 1 of Pub.L. 99-502 provided that: “This Act [enacting sections 3710a to 3710d of this title, amending this section and sections 3702, 3703, 3704, 3705, 3707, 3708, 3710 and 3714 of this title and 35 U.S.C.A. § 210, and repealing former section 3709 of this title] may be cited as the ‘Federal Technology Transfer Act of 1986.’”

Pub.L. 99-382, § 1, Aug. 14, 1986, 100 Stat. 811, provided: “That this Act [amending section 3704 of this title] may be cited as the ‘Japanese Technical Literature Act of 1986.’”

Short Title. Section 1 of Pub.L. 96-480 provided: “That this Act [enacting this chapter] may be cited as the ‘Stevenson-Wydler Technology Innovation Act of 1980.’”

Congressional Findings and Declaration of Purposes; 1989 Amendment. Pub.L. 101-189, Div. C, Title XXXI, § 3132, Nov. 29, 1989, 103 Stat. 1674, provided that:

“(a) Findings.—Congress finds that—

"(1) technology advancement is a key component in the growth of the United States industrial economy, and a strong industrial base is an essential element of the security of this country;

"(2) there is a need to enhance United States competitiveness in both domestic and international markets;

"(3) innovation and the rapid application of commercially valuable technology are assuming a more significant role in near-term marketplace success;

"(4) the Federal laboratories and other facilities have outstanding capabilities in a variety of advanced technologies and skilled scientists, engineers, and technicians who could contribute substantially to the posture of United States industry in international competition;

"(5) improved opportunities for cooperative research and development agreements between contractor-managers of certain Federal laboratories and the private sector in the United States, consistent with the program missions at those facilities, particularly the national security functions in-

involved in atomic energy defense activities, would contribute to our national well-being; and

"(6) more effective cooperation between those laboratories and the private sector in the United States is required to provide speed and certainty in the technology transfer process.

"(b) **Purposes.**—The purposes of this part [see Short Title of 1989 Amendment note under this section] are to—

"(1) enhance United States national security by promoting technology transfer between Government-owned, contractor-operated laboratories and the private sector in the United States; and

"(2) enhance collaboration between universities, the private sector, and Government-owned, contractor-operated laboratories in order to foster the development of technologies in areas of significant economic potential.

Legislative History. For legislative history and purpose of Pub.L. 96-480, see 1980 U.S.Code and Adm.News, p. 4892. See, also, Pub.L. 99-502, 1986 U.S.Code Cong. and Adm.News, p. 3442.

Library References

Health and Environment §25.5(3).
C.J.S. Health and Environment §§ 91
et seq., 106 et seq., 129 et seq.

Cross References

Office of Productivity, Technology, and Innovation, activities, etc., implementing study and report concerning State technology extension services, see section 5121(b)(3) and (c) of Pub. L. 100-418, set out as a note under 15 U.S.C.A. § 2781.

Superconductivity research and development program, submission of annual reports by Secretary of Energy on implementation of technology transfer activities under this chapter to Congressional committees regarding, see 15 U.S.C.A. § 5203.

§ 3702. Purpose

It is the purpose of this chapter to improve the economic, environmental, and social well-being of the United States by—

(1) establishing organizations in the executive branch to study and stimulate technology;

(2) promoting technology development through the establishment of cooperative research centers;

(3) stimulating improved utilization of federally funded technology developments, including inventions, software, and train-

ing technologies, by State and local governments and the private sector;

(4) providing encouragement for the development of technology through the recognition of individuals and companies which have made outstanding contributions in technology; and

(5) encouraging the exchange of scientific and technical personnel among academia, industry, and Federal laboratories.

(Pub.L. 96-480, § 3, Oct. 21, 1980, 94 Stat. 2312; Pub.L. 99-502, § 9(b)(1), (f)(2), Oct. 20, 1986, 100 Stat. 1795, 1797.)

Historical and Statutory Notes

1986 Amendment. Par. (2). Pub.L. 99-502, § 9(b)(1), substituted "cooperative research centers" for "centers for industrial technology".

Par. (3). Pub.L. 99-502, § 9(f)(2), inserted ", including inventions, software,

and training technologies," after "developments".

Legislative History. For legislative history and purpose of Pub.L. 96-480, see 1980 U.S.Code Cong. and Adm.News, p. 4892. See, also, Pub.L. 99-502, 1986 U.S.Code Cong. and Adm.News, p. 3442.

Law Review Commentaries

Government exchange of technology under the Federal Technology Transfer Act of 1986. Maurice W. Ryan and Mar-

garet M. Rioux, 36 Fed.B.News & J. 47 (January 1989).

Library References

Health and Environment §25.5(2).

C.J.S. Health and Environment §§ 61 et seq., 91 et seq., 106 et seq., 115 et seq., 125 et seq., 133 et seq.

§ 3703. Definitions

As used in this chapter, unless the context otherwise requires, the term—

(1) "Office" means the Office of Technology Policy established under section 3704 of this title.

(2) "Secretary" means the Secretary of Commerce.

(3) "Under Secretary" means the Under Secretary of Commerce for Technology appointed under section 3704(b)(1) of this title.

(4) "Centers" means the Cooperative Research Centers established under section 3705 or section 3707 of this title.

(5) "Nonprofit institution" means an organization owned and operated exclusively for scientific or educational purposes, no part of the net earnings of which inures to the benefit of any private shareholder or individual.

(6) "Federal laboratory" means any laboratory, any federally funded research and development center, or any center established under section 3705 or section 3707 of this title 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.

(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 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 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 632 of this title 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.

(13) "Clearinghouse" means the Clearinghouse for State and Local Initiatives on Productivity, Technology, and Innovation established by section 3704a of this title.

(Pub.L. 96-480, § 4, Oct. 21, 1980, 94 Stat. 2312; Pub.L. 99-502, § 9(b)(2), (d), Oct. 20, 1986, 100 Stat. 1795, 1796; Pub.L. 100-418, Title V, § 5122(b), Aug. 23, 1988, 102 Stat. 1439; Pub.L. 100-519, Title II, § 201(d)(1), Oct. 24, 1988, 102 Stat. 2594.)

Historical and Statutory Notes

References in Text. Sections 3705 and 3707 of this title, referred to in pars. (4) and (6), were in the the original references to sections 6 and 8 of this Act, respectively, meaning sections 6 and 8 of the Stevenson-Wydler Technology Innovation Act of 1980. Sections 6 and 8 of this Act were renumbered sections 7 and 9, respectively, by section 5122(a)(1) of Pub. L. 100-418 without corresponding amendment to this section.

The Plant Variety Protection Act, referred to in par. (9), is Pub.L. 91-577, Dec. 24, 1970, 84 Stat. 1542, as amended, which is classified principally to chapter 57 (§ 2321 et seq.) of U.S.C.A. Title 7. For complete classification of this Act to the Code, see Short Title note set out

under 7 U.S.C.A. § 2321 and U.S.C.A. Tables.

1988 Amendment. Par. (1). Pub.L. 100-519, § 201(d)(1)(A), substituted "Technology Policy" for "Productivity, Technology, and Innovation".

Par. (3). Pub.L. 100-519, § 201(d)(1)(B), substituted provisions defining the term "Under Secretary" for provisions defining the term "Assistant Secretary".

Par. (13). Pub.L. 100-418, § 5122(b), added par. (13).

1986 Amendment. Par. (1). Pub.L. 99-502, § 9(b)(2)(A), substituted definition of "Office" as the Office of Productivity, Technology, and Innovation for

former definition of that term as the Office of Industrial Technology.

Par. (3). Pub.L. 99-502, § 9(b)(2)(B), substituted provisions relating to the Assistant Secretary for Productivity, Technology and Innovation for provisions which related to the Director of the Office of Industrial Technology.

Par. (4). Pub.L. 99-502, § 9(b)(2)(C), substituted definition of "Centers" as Co-operative Research Centers for former definition of that term as the Centers for Industrial Technology.

Par. (6). Pub.L. 99-502, § 9(b)(2)(D), redesignated former par. (7) as (6), and struck out former par. (6), which defined the term "Board" as the National Industrial Technology Board established pursuant to section 3709 of this title.

Par. (7). Pub.L. 99-502, § 9(b)(2)(D), redesignated former par. (8) as (7). Former par. (7) redesignated (6).

Pub.L. 99-502, § 9(b)(2)(D), redesignated former par. (8) as (7).

Pub.L. 99-502, § 9(b)(2)(E), in par. (6) as so redesignated substituted "owned, leased, or otherwise used by a Federal agency and funded" for "owned and funded".

Par. (8). Pub.L. 99-502, § 9(d), added par. (8). Former par. (8) redesignated (7).

Pars. (9) to (12). Pub.L. 99-502, § 9(d), added pars. (9) to (12).

Legislative History. For legislative history and purpose of Pub.L. 96-480, see 1980 U.S.Code Cong. and Adm.News, p. 4892. See, also, Pub.L. 99-502, 1986 U.S.Code Cong. and Adm.News, p. 3442; Pub.L. 100-418, 1988 U.S.Code Cong. and Adm.News, p. 1547.

§ 3704. Commerce and technological innovation

(a) Establishment

There is established in the Department of Commerce a Technology Administration, which shall operate in accordance with the provisions, findings, and purposes of this chapter. The Technology Administration shall include—

- (1) the National Institute of Standards and Technology;
- (2) the National Technical Information Service; and
- (3) a policy analysis office, which shall be known as the Office of Technology Policy.

(b) Under Secretary and Assistant Secretary

The President shall appoint, by and with the advice and consent of the Senate, to the extent provided for in appropriations Acts—

- (1) an Under Secretary of Commerce for Technology, who shall be compensated at the rate provided for level III of the Executive Schedule in section 5314 of Title 5; and
- (2) an Assistant Secretary of Commerce for Technology Policy, who shall serve as policy analyst for the Under Secretary.

(c) Duties

The Secretary, through the Under Secretary, as appropriate, shall—

- (1) manage the Technology Administration and supervise its agencies, programs, and activities;
- (2) conduct technology policy analyses to improve United States industrial productivity, technology, and innovation, and cooperate with United States industry in the improvement of its

productivity, technology, and ability to compete successfully in world markets;

(3) carry out any functions formerly assigned to the Office of Productivity, Technology, and Innovation;

(4) assist in the implementation of the Metric Conversion Act of 1975 [15 U.S.C.A. § 205a et seq.];

(5) determine the relationships of technological developments and international technology transfers to the output, employment, productivity, and world trade performance of United States and foreign industrial sectors;

(6) determine the influence of economic, labor and other conditions, industrial structure and management, and government policies on technological developments in particular industrial sectors worldwide;

(7) 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;

(8) 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;

(9) 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;

(10) provide that cooperative efforts to stimulate industrial innovation be undertaken between the Under Secretary and other officials in the Department of Commerce responsible for such areas as trade and economic assistance;

(11) encourage and assist the creation of centers and other joint initiatives by State or ¹ 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;

(12) 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;

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

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

(d) Japanese technical literature

(1) In addition to the duties specified in subsection (c) of this section, the Secretary and the Under Secretary shall establish, and through the National Technical Information Service and with the cooperation of such other offices within the Department of Commerce as the Secretary considers appropriate, maintain a program (including an office in Japan) which shall, on a continuing basis—

(A) monitor Japanese technical activities and developments;

(B) consult with businesses, professional societies, and libraries in the United States regarding their needs for information on Japanese developments in technology and engineering;

(C) acquire and translate selected Japanese technical reports and documents that may be of value to agencies and departments of the Federal Government, and to businesses and researchers in the United States; and

(D) coordinate with other agencies and departments of the Federal Government to identify significant gaps and avoid duplication in efforts by the Federal Government to acquire, translate, index, and disseminate Japanese technical information.

Activities undertaken pursuant to subparagraph (C) of this paragraph shall only be performed on a cost-reimbursable basis. Translations referred to in such subparagraph shall be performed only to the extent that they are not otherwise available from sources within the private sector in the United States.

(2) Beginning in 1986, the Secretary shall prepare annual reports regarding important Japanese scientific discoveries and technical innovations in such areas as computers, semiconductors, biotechnology, and robotics and manufacturing. In preparing such reports, the Secretary shall consult with professional societies and businesses in the United States. The Secretary may, to the extent provided in advance by appropriation Acts, contract with private organizations to acquire and translate Japanese scientific and technical information relevant to the preparation of such reports.

(3) The Secretary also shall encourage professional societies and private businesses in the United States to increase their efforts to acquire, screen, translate, and disseminate Japanese technical literature.

(4) In addition, the Secretary shall compile, publish, and disseminate an annual directory which lists—

(A) all programs and services in the United States that collect, abstract, translate, and distribute Japanese scientific and technical information; and

(B) all translations of Japanese technical documents performed by agencies and departments of the Federal Government in the preceding 12 months that are available to the public.

(5) The Secretary shall transmit to the Congress, within 1 year after August 14, 1986, a report on the activities of the Federal Government to collect, abstract, translate, and distribute declassified Japanese scientific and technical information.

(e) Report

The Secretary shall prepare and submit to the President and Congress, within 3 years after October 21, 1980, a report on the progress, findings, and conclusions of activities conducted pursuant to this section and sections 3705, 3707, 3710, 3711, and 3712 of this title (as then in effect) and recommendations for possible modifications thereof.

(Pub.L. 96-480, § 5, Oct. 21, 1980, 94 Stat. 2312; Pub.L. 99-382, § 2, Aug. 14, 1986, 100 Stat. 811; Pub.L. 99-502, § 9(b)(3)-(5), (e)(2)(A), Oct. 20, 1986, 100 Stat. 1795, 1797; Pub.L. 100-519, Title II, § 201(a)-(c), (d)(2), Oct. 24, 1988, 102 Stat. 2593, 2594.)

¹ So in original. Probably should be "or".

Historical and Statutory Notes

References in Text. The Metric Conversion Act of 1975, referred to in subsec. (c)(4), is Pub. L. 94-168, Dec. 23, 1975, 89 Stat. 1007, as amended, which is classified generally to subchapter II (§ 205a et seq.) of chapter 6 of U.S.C.A. Title 15. For complete classification of this Act to the Code, see Short Title note set out under 15 U.S.C.A. § 205a and U.S.C.A. Tables.

1988 Amendment. Subsec. (a). Pub.L. 100-519, § 201(a), added subsec. catchline; substituted provisions establishing a Technology Administration within the Dept. of Commerce for provisions establishing an Office of Productivity, Technology, and Innovation; and added pars. (1) to (3).

Subsec. (b). Pub.L. 100-519, § 201(b), added subsec. catchline; and substituted provisions relative to the appointment of an Under Secretary of Commerce for Technology and an Assistant Secretary of Commerce for Technology Policy for provisions relative to the appointment of an Assistant Secretary for Productivity, Technology, and Innovation.

Subsec. (c). Pub.L. 100-519, § 201(c)(2), substituted "Under Secretary, as appropriate," for "Assistant Secretary, on a continuing basis," in provisions preceding par. (1).

Subsec. (c)(1) to (4). Pub.L. 100-519, § 201(c)(1), (2), added pars. (1) to (4). Former pars. (1) to (4) redesignated (5) to (8), respectively.

Subsec. (c)(5) to (9). Pub.L. 100-519, § 201(c)(1), redesignated former pars. (1) to (5) as (5) to (9), respectively.

Subsec. (c)(10). Pub.L. 100-519, § 201(c)(1), (3), redesignated former par. (6) as (10); and substituted "Under Secretary" for "Assistant Secretary".

Subsec. (c)(11) to (14). Pub.L. 100-519, § 201(c)(1), redesignated former pars. (7) to (10) as (11) to (14), respectively.

Subsec. (d)(1). Pub.L. 100-519, § 201(d)(2), inserted reference to the Under Secretary and inserted provisions relative to cooperation among offices within the Department of Commerce.

1986 Amendments. Subsec. (a). Pub.L. 99-502, § 9(b)(3), substituted "Office of Productivity, Technology, and Innovation" for "Office of Industrial Technology".

Subsec. (b). Pub.L. 99-502, § 9(b)(4), substituted "Assistant Secretary" for "Director" as the subsection catchline, and in text substituted "an Assistant Secretary for Productivity, Technology, and Innovation" for "a Director of the Office" and struck out provision which required that the Director of the Office be compensated at the rate provided for Level V of the Executive Schedule in section 5316 of Title 5.

Subsec. (c). Pub.L. 99-502, § 9(b)(5)(A), substituted "the Assistant Secretary" for "the Director" in provisions preceding par. (1).

Subsec. (c)(6). Pub.L. 99-502, § 9(b)(5)(A), substituted "the Assistant Secretary" for "the Director".

Subsec. (c)(7). Pub.L. 99-502, § 9(b)(5)(C), added par. (7). Former par. (7) redesignated (9).

Subsec. (c)(8). Pub.L. 99-502, § 9(b)(5)(C), added par. (8). Former par. (8) redesignated (10).

Subsec. (c)(9). Pub.L. 99-502, § 9(b)(5)(B), redesignated former par. (7) as (9).

Subsec. (c)(10). Pub.L. 99-502, § 9(b)(5)(B), redesignated former par. (8) as (10).

Subsec. (d). Pub.L. 99-382, § 2(2), added subsec. (d). Former subsec. (d) was redesignated (e).

Subsec. (e). Pub.L. 99-502, § 9(e)(2)(A), in subsec. (e) as so redesignated inserted "(as then in effect)" after "3712 of this title".

Pub.L. 99-382, § 2(1), redesignated subsec. (d) as (e).

Transition Provisions. Section 201(e) of Pub.L. 100-519, provided that: "The individual serving as the Assistant Secretary of Commerce for Productivity, Technology, and Innovation immediately before the date of enactment of this Act [Oct. 24, 1988] shall serve as Acting Assistant Secretary of Commerce for Technology Policy until the Assistant Secretary takes office."

Commercial Space Programs. Section 201(f) of Pub.L. 100-519, as added Pub.L. 100-685, Title II, § 219, Nov. 17, 1988, 102 Stat. 4095, provided that: "Nothing in this section [amending this section and sections 3703 and 3710 of this title and 5 U.S.C.A. § 5314] authorizes the Department to establish an Office of Commercial Administration without prior authorization of the Congress."

Legislative History. For legislative history and purpose of Pub.L. 96-480, see 1980 U.S.Code Cong. and Adm.News, p. 4892. See, also, Pub.L. 99-382, 1986 U.S.Code Cong. and Adm.News, p. 1812; Pub.L. 99-502, 1986 U.S.Code Cong. and Adm.News, p. 3442; Pub.L. 100-519, 1988 U.S.Code Cong. and Adm.News, p. 3269.

Library References

Health and Environment ⇨25.5(9).
C.J.S. Health and Environment §§ 65,
66, 103, 107, 140 et seq.

§ 3704a. Clearinghouse for State and Local Initiatives on Productivity, Technology, and Innovation

(a) Establishment

There is established within the Office of Productivity, Technology, and Innovation a Clearinghouse for State and Local Initiatives on Productivity, Technology, and Innovation. The Clearinghouse shall serve as a central repository of information on initiatives by State and local governments to enhance the competitiveness of American business through the stimulation of productivity, technology, and innovation and Federal efforts to assist State and local governments to enhance competitiveness.

(b) Responsibilities

The Clearinghouse may—

(1) establish relationships with State and local governments, and regional and multistate organizations of such governments, which carry out such initiatives;

(2) collect information on the nature, extent, and effects of such initiatives, particularly information useful to the Congress, Federal agencies, State and local governments, regional and multistate organizations of such governments, businesses, and the public throughout the United States;

(3) disseminate information collected under paragraph (2) through reports, directories, handbooks, conferences, and seminars;

(4) provide technical assistance and advice to such governments with respect to such initiatives, including assistance in determining sources of assistance from Federal agencies which may be available to support such initiatives;

(5) study ways in which Federal agencies, including Federal laboratories, are able to use their existing policies and programs to assist State and local governments, and regional and multistate organizations of such governments, to enhance the competitiveness of American business;

(6) make periodic recommendations to the Secretary, and to other Federal agencies upon their request, concerning modifications in Federal policies and programs which would improve Federal assistance to State and local technology and business assistance programs;

(7) develop methodologies to evaluate State and local programs, and, when requested, advise State and local governments, and regional and multistate organizations of such governments, as to which programs are most effective in enhancing the competitiveness of American business through the stimulation of productivity, technology, and innovation; and

(8) make use of, and disseminate, the nationwide study of State industrial extension programs conducted by the Secretary.

(c) Contracts

In carrying out subsection (b) of this section, the Secretary may enter into contracts for the purpose of collecting information on the nature, extent, and effects of initiatives.

(d) Triennial report

The Secretary shall prepare and transmit to the Congress once each 3 years a report on initiatives by State and local governments to enhance the competitiveness of American businesses through the stimulation of productivity, technology, and innovation. The report

shall include recommendations to the President, the Congress, and to Federal agencies on the appropriate Federal role in stimulating State and local efforts in this area. The first of these reports shall be transmitted to the Congress before January 1, 1989.

(Pub.L. 96-480, § 6, as added Pub.L. 100-418, Title V, § 5122(a)(2), Aug. 23, 1988, 102 Stat. 1438.)

Historical and Statutory Notes

Prior Provisions. A prior section 6 of Pub.L. 96-480, was renumbered section 7 by Pub.L. 100-418 and is classified to section 3705 of this title.

Legislative History. For legislative history and purpose of Pub.L. 100-418, see 1988 U.S. Code Cong. and Adm. News, p. 1547.

§ 3704b. National Technical Information Service

(a) Powers

(1) The Secretary of Commerce, acting through the Director of the National Technical Information Service (hereafter in this section referred to as the "Director") is authorized to do the following:

(A) Enter into such contracts, cooperative agreements, joint ventures, and other transactions, in accordance with all relevant provisions of Federal law applicable to such contracts and agreements, and under reasonable terms and conditions, as may be necessary in the conduct of the business of the National Technical Information Service (hereafter in this section referred to as the "Service").

(B) In addition to the authority regarding fees contained in section 2 of the Act entitled "An Act to provide for the dissemination of technological, scientific, and engineering information to American business and industry, and for other purposes" enacted September 9, 1950 (15 U.S.C. 1152), retain and, subject to appropriations Acts, utilize its net revenues to the extent necessary to implement the plan submitted under subsection (f)(3)(D) of this section.

(C) Enter into contracts for the performance of part or all of the functions performed by the Promotion Division of the Service prior to October 24, 1988. The details of any such contract, and a statement of its effect on the operations and personnel of the Service, shall be provided to the appropriate committees of the Congress 30 days in advance of the execution of such contract.

(D) Employ such personnel as may be necessary to conduct the business of the Service.

An increase or decrease in the personnel of the Service shall not affect or be affected by any ceilings on the number or grade of personnel.

(2) The functions and activities of the Service specified in subsection (e)(1) through (6) of this section are permanent Federal functions to be carried out by the Secretary through the Service and its employees, and shall not be transferred from the Service, by contract or otherwise, to the private sector on a permanent or temporary basis without express approval of the Congress. Functions or activities—

(A) for the procurement of supplies, materials, and equipment by the Service;

(B) referred to in paragraph (1)(C); or

(C) to be performed through joint ventures or cooperative agreements which do not result in a reduction in the Federal workforce of the affected programs of the service,

shall not be considered functions or activities for purposes of this paragraph.

(3) For the purposes of this subsection, the term “net revenues” means the excess of revenues and receipts from any source, other than royalties and other income described in section 3710c(a)(4) of this title, over operating expenses.

(b) Director of the Service

The management of the Service shall be vested in a Director who shall report to the Under Secretary of Commerce for Technology and the Secretary of Commerce.

(c) Advisory Board

(1) There is established the Advisory Board of the National Technical Information Service, which shall be composed of a chairman and four other members appointed by the Secretary.

(2) In appointing members of the Advisory Board the Secretary shall solicit recommendations from the major users and beneficiaries of the Service's activities and shall select individuals experienced in providing or utilizing technical information.

(3) The Advisory Board shall review the general policies and operations of the Service, including policies in connection with fees and charges for its services, and shall advise the Secretary and the Director with respect thereto.

(4) The Advisory Board shall meet at the call of the Secretary, but not less often than once each six months.

(d) Audits

The Secretary of Commerce shall provide for annual independent audits of the Service's financial statements beginning with fiscal year 1988, to be conducted in accordance with generally accepted accounting principles.

(e) Functions

The Secretary of Commerce, acting through the Service, shall—

(1) establish and maintain a permanent repository of non-classified scientific, technical, and engineering information;

(2) cooperate and coordinate its operations with other Government scientific, technical, and engineering information programs;

(3) make selected bibliographic information products available in a timely manner to depository libraries as part of the Depository Library Program of the Government Printing Office;

(4) in conjunction with the private sector as appropriate, collect, translate into English, and disseminate unclassified foreign scientific, technical, and engineering information;

(5) implement new methods or media for the dissemination of scientific, technical, and engineering information; and

(6) carry out the functions and activities of the Secretary under the Act entitled "An Act to provide for the dissemination of technological, scientific, and engineering information to American business and industry, and for other purposes" enacted September 9, 1950 [15 U.S.C. 1151 et seq.], and the functions and activities of the Secretary performed through the National Technical Information Service as of October 24, 1988, under this chapter.

(f) Notification of Congress

(1) The Secretary of Commerce and the Director shall keep the appropriate committees of Congress fully and currently informed about all activities related to the carrying out of the functions of the Service, including changes in fee policies.

(2) Within 90 days after October 24, 1988, the Secretary of Commerce shall submit to the Congress a report on the current fee structure of the Service, including an explanation of the basis for the fees, taking into consideration all applicable costs, and the adequacy of the fees, along with reasons for the declining sales at the Service of scientific, technical, and engineering publications. Such report shall explain any actions planned or taken to increase such sales at reasonable fees.

(3) The Secretary shall submit an annual report to the Congress which shall—

(A) summarize the operations of the Service during the preceding year, including financial details and staff levels broken down by major activities;

(B) detail the operating plan of the Service, including specific expense and staff needs, for the upcoming year;

(C) set forth details of modernization progress made in the preceding year;

(D) describe the long-term modernization plans of the Service; and

(E) include the results of the most recent annual audit carried out under subsection (d) of this section.

(4) The Secretary shall also give the Congress detailed advance notice of not less than 30 calendar days of—

(A) any proposed reduction-in-force;

(B) any joint venture or cooperative agreement which involves a financial incentive to the joint venturer or contractor; and

(C) any change in the operating plan submitted under paragraph (3)(B) which would result in a variation from such plan with respect to expense levels of more than 10 percent.

(Pub.L. 100-519, Title II, § 212, Oct. 24, 1988, 102 Stat. 2594.)

Historical and Statutory Notes

References in Text. This section, referred to in subsec. (a)(1), was in the original "this subtitle", meaning subtitle B (§§ 211, 212) of title II of Pub. L. 100-519, Oct. 24, 1988, 102 Stat. 2594, which enacted section 3704b of this title and amended section 3710 of this title. For complete classification of this subtitle to the Code, see Short Title of 1988 Amendment note set out under section 3701 of this title and U.S.C.A. Tables.

Section 3710c(a)(4) of this title, referred to in subsec. (a)(3), was in the original a reference to section 13(a)(4) of the Stevenson-Wydler Technology Innovation Act of 1980 which was translated as reading section 14(a)(4) of the Act to reflect the probable intent of Congress and the renumbering of section 13 of the Act as section 14 by section 5122(a)(1) of Pub. L. 100-418.

The Act entitled "An Act to provide for the dissemination of technological, scientific, and engineering information to American business and industry, and for other purposes" enacted September 9, 1950, referred to in subsec. (e)(6), is Act Sept. 9, 1950, c. 936, 64 Stat. 823, as amended, which is classified generally to 15 U.S.C.A. chapter 23 (§ 1151 et seq.).

For complete classification of this Act to the Code, see U.S.C.A. Tables.

Codification. Section was enacted as part of the National Technical Information Act of 1988, and not as part of the Stevenson-Wydler Technology Innovation Act of 1980 which comprises this chapter.

Section (a)(4) of this section repealed section 3710(h) of this title.

Termination of Advisory Boards. Advisory boards established after Jan. 5, 1973, to terminate not later than the expiration of the two-year period beginning on the date of their establishment, unless, in the case of a board established by the President or an officer of the Federal Government, such board is renewed by appropriate action prior to the expiration of such two-year period, or in the case of a board established by the Congress, its duration is otherwise provided by law. See sections 3(2) and 14 of Pub. L. 92-463, Oct. 6, 1972, 86 Stat. 770, 776, set out in the Appendix to U.S. C.A. Title 5.

Legislative History. For legislative history and purpose of Pub.L. 100-519, see 1988 U.S. Code Cong. and Adm. News, p. 3269.

Library References

Health and Environment ⇐25.5.
United States ⇐41.
WESTLAW Topic Nos. 199, 393.

C.J.S. Health and Environment §§ 61 to 153.
C.J.S. United States § 41.

§ 3705. Cooperative Research Centers

(a) Establishment.—The Secretary shall provide assistance for the establishment of Cooperative Research Centers. Such Centers shall be affiliated with any university, or other nonprofit institution, or group thereof, that applies for and is awarded a grant or enters into a cooperative agreement under this section. The objective of the Centers is to enhance technological innovation through—

(1) the participation of individuals from industry and universities in cooperative technological innovation activities;

(2) the development of the generic research base, important for technological advance and innovative activity, in which individual firms have little incentive to invest, but which may have significant economic or strategic importance, such as manufacturing technology;

(3) the education and training of individuals in the technological innovation process;

(4) the improvement of mechanisms for the dissemination of scientific, engineering, and technical information among universities and industry;

(5) the utilization of the capability and expertise, where appropriate, that exists in Federal laboratories; and

(6) the development of continuing financial support from other mission agencies, from State and local government, and from industry and universities through, among other means, fees, licenses, and royalties.

(b) Activities.—The activities of the Centers shall include, but need not be limited to—

(1) research supportive of technological and industrial innovation including cooperative industry-university research;

(2) assistance to individuals and small businesses in the generation, evaluation, and development of technological ideas supportive of industrial innovation and new business ventures;

(3) technical assistance and advisory services to industry, particularly small businesses; and

(4) curriculum development, training, and instruction in invention, entrepreneurship, and industrial innovation.

Each Center need not undertake all of the activities under this subsection.

(c) Requirements.—Prior to establishing a Center, the Secretary shall find that—

(1) consideration has been given to the potential contribution of the activities proposed under the Center to productivity,

employment, and economic competitiveness of the United States;

(2) a high likelihood exists of continuing participation, advice, financial support, and other contributions from the private sector;

(3) the host university or other nonprofit institution has a plan for the management and evaluation of the activities proposed within the particular Center, including:

(A) the agreement between the parties as to the allocation of patent rights on a nonexclusive, partially exclusive, or exclusive license basis to and inventions conceived or made under this auspices of the Center; and

(B) the consideration of means to place the Center, to the maximum extent feasible, on a self-sustaining basis;

(4) suitable consideration has been given to the university's or other nonprofit institution's capabilities and geographical location; and

(5) consideration has been given to any effects upon competition of the activities proposed under the Center.

(d) Planning grants—The Secretary is authorized to make available nonrenewable planning grants to universities or nonprofit institutions for the purpose of developing a plan required under subsection (c)(3) of this section.

(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 shall apply to the extent not inconsistent with this section.

(f) Repealed. Pub.L. 99-502, § 9(b)(10), Oct. 20, 1986, 100 Stat. 1796

(Pub.L. 96-480, § 7, formerly § 6, Oct. 21, 1980, 94 Stat. 2313; Pub.L. 99-502, § 9(b)(6)-(10), Oct. 20, 1986, 100 Stat. 1796; renumbered § 7, Pub.L. 100-418, Title V, § 5122(a)(1), Aug. 23, 1988, 102 Stat. 1438.)

Historical and Statutory Notes

Prior Provisions. A prior section 7 of Pub. L. 96-480 was renumbered section 8 by Pub. L. 100-418 and is classified to section 3706 of this title.

1986 Amendment. Catchline. Pub.L. 99-502, § 9(b)(6), substituted "Cooperative Research Centers" for "Centers for Industrial Technology".

Subsec. (a). Pub.L. 99-502, § 9(b)(7), substituted "Cooperative Research Centers" for "Centers for Industrial Technology" in provisions preceding par. (1).

Subsec. (b)(1). Pub.L. 99-502, § 9(b)(8), struck out "basic and applied" following "industry-university".

Subsec. (e). Pub.L. 99-502, § 9(b)(9), substituted provisions that in research and development utilization under this section chapter 18 of Title 35 shall apply to the extent not inconsistent with this section for provisions establishing conditions under which each Center for Industrial Technology or supporting agency could acquire or retain title to any invention conceived or made under the auspices of the Center, or patent on such

invention, and further establishing procedures for issuing licenses to responsible applicants, with de novo review of adverse decisions by the supporting agency available in the United States Court of Claims.

Subsec. (f). Pub.L. 99-502, § 9(b)(10), struck out subsec. (f), which had provided for consultation by the supporting agency with the Attorney General and issuance by the Attorney General of an advisory opinion as to whether the proposed joint research activities of a Center for Industrial Technology would violate any of the antitrust laws.

Model Program. Pub.L. 101-510, Div. A, Title VIII, § 827(b), Nov. 5, 1990, 104 Stat. 1607, provided that:

“(1) In the administration of applicable provisions of the Stevenson-Wydler Technology Innovation Act of 1980 [this chapter] or section 5121(b) of the Omnibus Trade and Competitiveness Act of 1988 [15 U.S.C.A. § 2781 note], the Secretary of Commerce shall develop, in consultation with the Secretary of Defense and the Secretary of Energy, model programs for national defense laboratories.

“(2) Model programs under this subsection shall involve Federal laboratories, small businesses, and partnership intermediaries. The purpose of the model programs is to demonstrate successful relationships between the Feder-

al Government, State and local governments, and small businesses which encourage economic growth through the commercial application of technology resulting from federally funded research.

“(3) In this subsection, the term ‘national defense laboratory’ means any laboratory, federally funded research and development center (FFRDC), or other center established under section 6 or 8 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3705, 3707) [probably means this section and section 3707 of this title] that is owned by the Federal Government, whether operated by the Federal Government or by a contractor, and—

“(A) is under the jurisdiction of the Secretary of Defense; or

“(B) is under the jurisdiction of the Secretary of Energy, but only if the primary function of the laboratory, FFRDC, or other center under the Secretary’s jurisdiction is to support the national defense activities of the Department of Defense or the Department of Energy.”

Legislative History. For legislative history and purpose of Pub.L. 96-480, see 1980 U.S.Code Cong. and Adm.News, p. 4892. See, also, Pub.L. 99-502, 1986 U.S.Code Cong. and Adm.News, p. 3442; Pub.L. 100-418, 1988 U.C.Code Cong. and Adm.News, p. 1547.

Cross References

National Critical Materials Council, recommendations by Council regarding establishment of Centers under this section, see 30 U.S.C.A. § 1805(a).

Library References

Health and Environment ⇐25.5(9).
C.J.S. Health and Environment §§ 65,
66, 103, 107, 140 et seq.

§ 3706. Grants and cooperative agreements

(a) **In general**—The Secretary may make grants and enter into cooperative agreements according to the provisions of this section in order to assist any activity consistent with this chapter, including activities performed by individuals. The total amount of any such grant or cooperative agreement may not exceed 75 percent of the total cost of the program.

(b) **Eligibility and procedure**—Any person or institution may apply to the Secretary for a grant or cooperative agreement available under this section. Application shall be made in such form

and manner, and with such content and other submissions, as the Assistant Secretary shall prescribe. The Secretary shall act upon each such application within 90 days after the date on which all required information is received.

(c) Terms and conditions—

(1) Any grant made, or cooperative agreement entered into, under this section shall be subject to the limitations and provisions set forth in paragraph (2) of this subsection, and to such other terms, conditions, and requirements as the Secretary deems necessary or appropriate.

(2) Any person who receives or utilizes any proceeds of any grant made or cooperative agreement entered into under this section shall keep such records as the Secretary shall by regulation prescribe as being necessary and appropriate to facilitate effective audit and evaluation, including records which fully disclose the amount and disposition by such recipient of such proceeds, the total cost of the program or project in connection with which such proceeds were used, and the amount, if any, of such costs which was provided through other sources.

(Pub.L. 96-480, § 8, formerly § 7, Oct. 21, 1980, 94 Stat. 2315; renumbered § 8 and amended Pub.L. 100-418, Title V, §§ 5115(b)(1), 5122(a)(1), Aug. 23, 1988, 102 Stat. 1433, 1438.)

Historical and Statutory Notes

Prior Provisions. A prior section 8 of Pub. L. 96-480 was renumbered section 9 by Pub. L. 100-418 and is classified to section 3707 of this title.

1988 Amendment. Subsec. (b). Pub.L. 100-418, § 5115(b)(1), substituted "Assistant Secretary" for "Director".

Legislative History. For legislative history and purpose of Pub.L. 96-480, see 1980 U.S.Code Cong. and Adm.News, p. 4892. See, also, Pub.L. 100-418, 1988 U.S. Code Cong. and Adm.News, p. 1547.

Library References

Health and Environment ⇨25.5(9).
C.J.S. Health and Environment §§ 65,
66, 103, 107, 140 et seq.

§ 3707. National Science Foundation Cooperative Research Centers

(a) Establishment and provisions—The National Science Foundation shall provide assistance for the establishment of 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 3705(a) of this title through the conduct of activities as provided in section 3705(b) of this title.

(b) Planning grants—The National Science Foundation is authorized to make available nonrenewable planning grants to universi-

ties or nonprofit institutions for the purpose of developing the plan, as described under section 3705(c)(3) of this title.

(c) Terms and conditions—Grants, contracts, and cooperative agreements entered into by the National Science Foundation in execution of the powers and duties of the National Science Foundation under this chapter shall be governed by the National Science Foundation Act of 1950 [42 U.S.C.A. § 1861 et seq.] and other pertinent Acts.

(Pub.L. 96-480, § 9, formerly § 8, Oct. 21, 1980, 94 Stat. 2316; Pub.L. 99-502, § 9(b)(11), (12), (e)(2)(B), Oct. 20, 1986, 100 Stat. 1796, 1797; renumbered § 9, Pub.L. 100-418, Title V, § 5122(a)(1), Aug. 23, 1988, 102 Stat. 1438.)

Historical and Statutory Notes

References in Text. Section 3705 of this title, referred to in subsecs. (a) and (b), was in the original a reference to section 6 of this Act, meaning section 6 of the Stevenson-Wydler Technology Innovation Act 1980. Section 6 of the Act was renumbered section 7 by section 5122(a)(1) of Pub. L. 100-418 without corresponding amendment to this section.

The National Science Foundation Act of 1950, referred to in subsec. (c), is Act May 10, 1950, c. 171, 64 Stat. 149, as amended, which is classified generally to 42 U.S.C.A. chapter 16 (§ 1861 et seq.). For complete classification of this Act to the Code, see Short Title note set out under 42 U.S.C.A. § 1861, and U.S.C.A. Tables.

Prior Provisions. A prior section 9 of Pub. L. 96-480 was renumbered section

10 by Pub. L. 100-418 and is classified to section 3708 of this title.

1986 Amendment. Catchline. Pub.L. 99-502, § 9(b)(11), substituted "Cooperative Research Centers" for "Centers for Industrial Technology".

Subsec. (a). Pub.L. 99-502, § 9(b)(12), substituted "Cooperative Research Centers" for "Centers for Industrial Technology".

Pub.L. 99-502, § 9(e)(2)(B), struck out provisions that sections 3705(e) and 3705(f) of this title would apply to Centers established under this section.

Legislative History. For legislative history and purpose of Pub.L. 96-480, see 1980 U.S.Code Cong. and Adm.News, p. 4892. See, also, Pub.L. 99-502, 1986 U.S. Code Cong. and Adm. News, p. 3442; Pub.L. 100-418, 1988 U.S.Code Cong. and Adm.News, p. 1547.

§ 3708. Administrative arrangements

(a) Coordination—The Secretary and the National Science Foundation shall, on a continuing basis, obtain the advice and cooperation of departments and agencies whose missions contribute to or are affected by the programs established under this chapter, including the development of an agenda for research and policy experimentation. These departments and agencies shall include but not be limited to the Departments of Defense, Energy, Education, Health and Human Services, Housing and Urban Development, the Environmental Protection Agency, National Aeronautics and Space Administration, Small Business Administration, Council of Economic Advisers, Council on Environmental Quality, and Office of Science and Technology Policy.

(b) Cooperation—It is the sense of the Congress that departments and agencies, including the Federal laboratories, whose missions

are affected by, or could contribute to, the programs established under this chapter, should, within the limits of budgetary authorizations and appropriations, support or participate in activities or projects authorized by this chapter.

(c) Administrative authorization—

(1) Departments and agencies described in subsection (b) of this section are authorized to participate in, contribute to, and serve as resources for the Centers and for any other activities authorized under this chapter.

(2) The Secretary and the National Science Foundation are authorized to receive moneys and to receive other forms of assistance from other departments or agencies to support activities of the Centers and any other activities authorized under this chapter.

(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 sections 3705, 3707, 3710, 3710d, 3711a or 3712 of this title before funds are committed to such program in order to mount complementary efforts and avoid duplication.

(Pub.L. 96-480, § 10, formerly § 9, Oct. 21, 1980, 94 Stat. 2316; Pub.L. 99-502, § 9(e)(2)(C), Oct. 20, 1986, 100 Stat. 1797; Pub.L. 100-107, § 3(b), Aug. 20, 1987, 101 Stat. 727; renumbered § 10 and amended Pub.L. 100-418, Title V, § 5122(a)(1), (c), Aug. 23, 1988, 102 Stat. 1438, 1439.)

Historical and Statutory Notes

Prior Provisions. A prior section 10 of Pub. L. 96-480 was renumbered section 11 by Pub. L. 100-418 and is classified to section 3710 of this title.

Another prior section 10 of Pub. L. 96-480, which related to the National Industrial Technology Board and which was classified to section 3709 of this title, was repealed by section 9(a) of Pub. L. 99-502.

1988 Amendment. Subsec. (c). Pub.L. 100-418, § 5122(c), in the original substituted "section 7, 9, 11, 15, 17, or 18 of this Act" for "section 6, 8, 10, 14, 16, or 17 of this Act". Due to the renumbering of sections 6 through 19 of Pub.L. 96-480 as sections 7 through 20 by section 5122(a)(1) of Pub.L. 100-418, both phrases translate as "section 3705, 3707, 3710, 3710d, 3711a or 3712 of this title". Accordingly, amendment by section

5122(c) of Pub.L. 100-418 resulted in no change in text.

1987 Amendment. Subsec. (d). Pub.L. 100-107 substituted "3711a, or 3712 of this title" for "or 3712 of this title".

1986 Amendment. Subsec. (d). Pub.L. 99-502, § 9(e)(2)(C), added references to sections 3710 and 3710d of this title.

Legislative History. For legislative history and purpose of Pub.L. 96-480, see 1980 U.S.Code Cong. and Adm.News, p. 4892. See, also, Pub.L. 99-502, 1986 U.S. Code Cong. and Adm. News, p. 3442; Pub.L. 100-107, 1987 U.S.Code Cong. and Adm.News, p. 722; Pub.L. 100-418, 1988 U.S.Code Cong. and Adm. News, p. 1547.

Library References

Health and Environment §25.5(9).
 C.J.S. Health and Environment §§ 65,
 66, 103, 107, 140 et seq.

§ 3709. Repealed. Pub.L. 99-502, § 9(a), Oct. 20, 1986, 100 Stat. 1795

Historical and Statutory Notes

Section, Pub. L. 96-480, § 10, Oct. 21, 1980, 94 Stat. 2317, related to establishment, duties, membership, and terms of the National Industrial Technology Board.

§ 3710. 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.

(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) Establishment of Research and Technology Applications Offices

Each Federal laboratory shall establish an Office of Research and Technology Applications. Laboratories having existing organizational structures which perform the functions of this section may elect to combine the Office of Research and Technology Applications within the existing organization. The staffing and funding levels for these offices shall be determined between each Federal laboratory and the Federal agency operating or directing the laboratory, except that (1) each laboratory having 200 or more full-time equivalent scientific, engineering, and related technical positions shall provide one or more full-time equivalent positions as staff for its Office of Research and Technology Applications, and (2) each Federal agency which operates or directs one or more Federal laboratories shall make available sufficient funding, either as a separate line item or from 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 shall submit to Congress at the time the President submits the budget to Congress an explanation of the agency's technology transfer program for the preceding year and the agency's plans for conducting its technology transfer function for the upcoming year, including plans for securing intellectual property rights in laboratory innovations with commercial promise and plans for managing such innovations so as to benefit the competitiveness of United States industry.

(c) Functions of Research and Technology Applications Offices

It shall be the function of each Office of Research and Technology Applications—

(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;

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

(3) to cooperate with and assist the National Technical Information Service, the Federal Laboratory Consortium for Technology Transfer, and other organizations which link the research and development resources of that laboratory and the Federal Government as a whole to potential users in State and local government and private industry;

(4) to provide technical assistance to State and local government officials; and

(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.

Agencies which have established organizational structures outside their Federal laboratories which have as their principal purpose the transfer of federally owned or originated technology to State and local government and to the private sector may elect to perform the functions of this subsection in such organizational structures. No Office of Research and Technology Applications or other organizational structures performing the functions of this subsection shall

substantially compete with similar services available in the private sector.

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

(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;

(4) provide funding, at the discretion of the Secretary, for Federal laboratories to provide the assistance specified in subsection (c)(3) of this section;

(5) use appropriate technology transfer mechanisms such as personnel exchanges and computer-based systems; and

(6) maintain a permanent archival repository and clearinghouse for the collection and dissemination of nonclassified scientific, technical, and engineering information.

(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 laboratory 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 orga-

nizations, 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) of this section 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 Institute of Standards and Technology shall provide the Consortium, on a reimbursable basis, with administrative services, such as office space, personnel, and support services of the Institute, 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 October 20, 1986, 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 0.008 percent of the budget of each Federal agency from any Federal source, including related overhead, that is to be utilized by or on behalf of the laboratories of such agency for a fiscal year referred to in subparagraph (B)(ii) shall be transferred by such agency to the National Institute of Standards and Technology at the beginning of the fiscal year involved. Amounts so transferred shall be provided by the Institute 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.

(f) Agency reporting

Each Federal agency which operates or directs one or more Federal laboratories shall 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.

(g) Functions of Secretary

(1) The Secretary, through the Under Secretary, and 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 October 20, 1986 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 chapter. Other Federal agencies shall cooperate in the report's preparation.

(3) Not later than one year after October 20, 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.

(h) **Repealed.** Pub.L. 100-519, Title II, § 212(a)(4), Oct. 24, 1988, 102 Stat. 2595

(Pub.L. 96-480, § 11, Oct. 21, 1980, 94 Stat. 2318, renumbered § 10 and amended Pub.L. 99-502, §§ 3-5, 9(e)(1), Oct. 20, 1986, 100 Stat. 1787, 1789, 1791, 1797; Pub.L. 99-502, § 4(c)(1), Oct. 20, 1986, 100 Stat. 1790; renumbered § 11 and amended Pub.L. 100-418, Title V, §§ 5115(b)(2), 5122(a)(1), 5162(b), 5163(c)(1), (3), Aug. 23, 1988, 102 Stat. 1433, 1438, 1450, 1451; Pub.L. 100-519, Title II, §§ 201(d)(3), 212(a)(4), Oct. 24, 1988, 102 Stat. 2594, 2595; Pub.L. 101-189, Div. C, Title XXXI, § 3133(e), Nov. 29, 1989, 103 Stat. 1679.)

Historical and Statutory Notes

1989 Amendment. Subsec. (b). Pub.L. 101-189, § 3133(e)(1), (2), substituted "each Federal agency which operates or directs one or more Federal laboratories shall make available sufficient funding, either as a separate line item or from the agency's research and development budget, to support" for "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".

Pub.L. 101-189, § 3133(e)(3), (4), substituted "The agency head shall submit to Congress at the time the President submits the budget to Congress an explanation of the agency's technology transfer program for the preceding year and the agency's plans for conducting its technology transfer function for the upcoming year, including plans for securing intellectual property rights in laboratory innovations with commercial promise and plans for managing such innovations so as to benefit the competitiveness of United States industry." for "The agency head may waive the requirement set forth in clause (2) of the preceding sentence. If the agency head waives 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."

1988 Amendment. Subsec. (d)(6). Pub.L. 100-418, § 5163(c)(3), added par. (6). A prior par. (6) had been redesignated (5) by Pub.L. 99-502.

Subsec. (e)(4). Pub.L. 100-418, § 5115(b)(2), substituted "National Institute of Standards and Technology" for "National Bureau of Standards" and "Institute" for "Bureau", respectively.

Subsec. (e)(7)(A). Pub.L. 100-418, § 5115(b)(2), substituted "National Institute of Standards and Technology" for "National Bureau of Standards" and "Institute" for "Bureau", respectively.

Pub.L. 100-418, § 5162(b), substituted "0.008 percent of the budget of each Federal agency from any Federal source, including related overhead, that is to be utilized by or on behalf of" for "0.005 percent of that portion of the research and development budget of each Federal agency that is to be utilized by".

Subsec. (g)(1). Pub.L. 100-519, § 201(d)(3), inserted reference to the Under Secretary.

Subsec. (h). Pub.L. 100-418, § 5163(c)(1), added subsec. (h).

1986 Amendment. Subsec. (a). Pub.L. 99-502, § 4(a), designated existing provisions as par. (1), and added pars. (2) and (3).

Subsec. (b). Pub.L. 99-502, § 4(b)(1), substituted "200 or more full-time equivalent scientific, engineering, and related technical positions shall provide one or more full-time equivalent positions" for "a total annual budget exceeding \$20,000,000 shall provide at least one professional individual full-time", added "Furthermore, individuals filling positions in an Office of Research and Technology Applications shall be included in the overall laboratory/agency management development programs so as to ensure that highly competent technical managers are full participants in the technology transfer process", substituted "requirement set forth in clause (2) of the preceding sentence" for "requirements set forth in (1) and/or (2) of this subsection", and substituted "such requirement" for "either requirement (1) or (2)".

Subsec. (c)(1). Pub.L. 99-502, § 4(b)(2)(A), substituted "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" for "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".

Subsec. (c)(3). Pub.L. 99-502, § 4(b)(2)(B), substituted "the National Technical Information Service, the Federal Laboratory Consortium for Technology Transfer" for "the Center for the Utilization of Federal Technology", and struck out "and" following the semicolon.

Subsec. (c)(4). Pub.L. 99-502, § 4(b)(2)(C), substituted "to State and local government officials; and" for "in response to requests from State and local government officials" and struck out the period at the end thereof.

Subsec. (c)(5). Pub.L. 99-502, § 4(b)(2)(D), added par. (5).

Catchline. Pub.L. 99-502, § 4(c)(1), substituted "Dissemination of technical information" for "Center for the Utilization of Federal Technology".

Subsec. (d). Pub.L. 99-502, § 4(c)(1), in provisions preceding par. (1), substituted "The National Technical Information Service shall" for "The Center for the Utilization of Federal Technology shall" and struck out provision establishing in the Department of Commerce a Center for the Utilization of Federal Technology".

Subsec. (d)(2). Pub.L. 99-502, § 4(c)(3), redesignated former par. (3) as (2), and in par. (2) as so redesignated struck out "existing" preceding "Federal Laboratory". Former par. (2) was struck out.

Pub.L. 99-502, § 4(c)(2), struck out former par. (2), which had required the Center for the Utilization of Federal Technology to coordinate the activities of the Offices of Research and Technology Applications of the Federal laboratories.

Subsec. (d)(3). Pub.L. 99-502, § 4(c)(4), added par. (3). Former par. (3) redesignated (2).

Subsec. (d)(4). Pub.L. 99-502, § 4(c)(5), redesignated former par. (5) as (4). Former par. (4) was struck out.

Pub.L. 99-502, § 4(c)(6), in par. (4) as so redesignated substituted "subsection (c)(3)" for "subsection (c)(4)".

Pub.L. 99-502, § 4(c)(4), struck out former par. (4), which had required the Center for the Utilization of Federal Technology to receive requests for technical assistance from State and local governments and refer these requests to the appropriate Federal laboratories.

Subsec. (d)(5). Pub.L. 99-502, § 4(c)(5), redesignated former par. (6) as (5). Former par. (5) redesignated (4).

Subsec. (d)(6). Pub.L. 99-502, § 4(c)(5), redesignated former par. (6) as (5).

Subsec. (e). Pub.L. 99-502, § 3(2), added subsec. (e). Former subsec. (e) redesignated (f).

Subsec. (f). Pub.L. 99-502, § 3(1), redesignated former subsec. (e) as (f).

Pub.L. 99-502, § 4(d)(1), in subsec. (f) as so redesignated substituted "report annually to the Congress, as part of the agency's annual budget submission, on the activities" for "prepare biennially a report summarizing the activities".

Pub.L. 99-502, § 4(d)(2), in subsec. (f) as so redesignated struck out provision which had required that the report be transmitted to the Center for the Utilization of Federal Technology by Nov. 1 of each year in which it was due.

Subsec. (g). Pub.L. 99-502, § 5, added subsec. (g).

Superconductivity: National Action Plan on Superconductivity Research and Development. Secretary of Energy's superconductivity research and development program and submission of

annual reports to Congress respecting technology transfer activities, see 15 U.S.C.A. § 5203.

Legislative History. For legislative history and purpose of Pub.L. 96-480, see 1980 U.S.Code Cong. and Adm.News, p. 4892. See, also, Pub.L. 99-502, 1986 U.S. Code Cong. and Adm. News, p. 3442; Pub.L. 100-418, 1988 U.S.Code Cong. and Adm.News, p. 1547; Pub.L. 100-519, 1988 U.S.Code Cong. and Adm. News, p. 3269; Pub.L. 101-189, 1989 U.S. Code Cong. and Adm. News, p. 838.

EXECUTIVE ORDERS

EXECUTIVE ORDER NO. 12591

Apr. 10, 1987, 52 F.R. 13414, as amended Ex.Ord. No. 12618,
Dec. 22, 1987, 52 F.R. 48661

FACILITATING ACCESS TO SCIENCE AND TECHNOLOGY

By the authority vested in me as President by the Constitution and laws of the United States of America, including the Federal Technology Transfer Act of 1986 [Public Law 99-502] [Pub.L. 99-502, Oct. 20, 1986; 100 Stat. 1785], the Trademark Clarification Act of 1984 [Public Law 98-620] [Pub.L. 98-620, Nov. 8, 1984, 98 Stat. 3335], and the University and Small Business Patent Procedure Act of 1980 [Public Law 96-517] [Pub.L. 96-517, Dec. 12, 1980, 94 Stat. 3015], and in order to ensure that Federal agencies and laboratories assist universities and the private sector in broadening our technology base by moving new knowledge from the research laboratory into the development of new products and processes, it is hereby ordered as follows:

Section 1. Transfer of Federally Funded Technology.

(a) The head of each Executive department and agency, to the extent permitted by law, shall encourage and facilitate collaboration among Federal laboratories, State and local governments, universities, and the private sector, particularly small business, in order to assist in the transfer of technology to the marketplace.

(b) The head of each Executive department and agency shall, within overall funding allocations and to the extent permitted by law:

(1) delegate authority to its government-owned, government-operated Federal laboratories:

(A) to enter into cooperative research and development agreements with other Federal laboratories, State and local governments, universities, and the private sector; and

(B) to license, assign, or waive rights to intellectual property developed by the laboratory either under such cooperative research or development agreements and from within individual laboratories.

(2) identify and encourage persons to act as conduits between and among Federal laboratories, universities, and the private sector for the transfer of technology developed from federally funded research and development efforts;

(3) ensure that State and local governments, universities, and the private sector are provided with information on the technology, expertise, and facilities available in Federal laboratories;

(4) promote the commercialization, in accord with my Memorandum to the Heads of Executive Departments and Agencies of February 18, 1983, of patentable results of federally funded research by granting to all contractors, regardless of size, the title to patents made in whole or in part with Federal funds, in exchange for royalty-free use by or on behalf of the government;

(5) administer all patents and licenses to inventions made with federal assistance, which are owned by the non-profit contractor or grantee, in accordance with Section 202(c)(7) of Title 35 of the United States Code as amended by Public Law 98-620 [35 U.S.C.A. § 202(c)(7)],

without regard to limitations on licensing found in that section prior to amendment or in Institutional Patent Agreements now in effect that were entered into before that law was enacted on November 8, 1984, unless, in the case of an invention that has not been marketed, the funding agency determines, based on information in its files, that the contractor or grantee has not taken adequate steps to market the inventions, in accordance with applicable law or an Institutional Patent Agreement;

(6) implement, as expeditiously as practicable, royalty-sharing programs with inventors who were employees of the agency at the time their inventions were made, and cash award programs; and

(7) cooperate, under policy guidance provided by the Office of Federal Procurement Policy, with the heads of other affected departments and agencies in the development of a uniform policy permitting Federal contractors to retain rights to software, engineering drawings, and other technical data generated by Federal grants and contracts, in exchange for royalty-free use by or on behalf of the government.

Sec. 2. Establishment of the Technology Share Program. The Secretaries of Agriculture, Commerce, Energy, and Health and Human Services and the Administrator of the National Aeronautics and Space Administration shall select one or more of their Federal laboratories to participate in the Technology Share Program. Consistent with its mission and policies and within its overall funding allocation in any year, each Federal laboratory so selected shall:

(a) Identify areas of research and technology of potential importance to long-term national economic competitiveness and in which the laboratory possesses special competence and/or unique facilities;

(b) Establish a mechanism through which the laboratory performs research in areas identified in Section 2(a) as a participant of a consortium composed of United States industries and universities. All consortia so established shall have, at a minimum, three individual companies that conduct the majority of their business in the United States; and

(c) Limit its participation in any consortium so established to the use of laboratory personnel and facilities. How-

ever, each laboratory may also provide financial support generally not to exceed 25 percent of the total budget for the activities of the consortium. Such financial support by any laboratory in all such consortia shall be limited to a maximum of \$5 million per annum.

Sec. 3. Technology Exchange—Scientists and Engineers. The Executive Director of the President's Commission on Executive Exchange shall assist Federal agencies, where appropriate, by developing and implementing an exchange program whereby scientists and engineers in the private sector may take temporary assignments in Federal laboratories, and scientists and engineers in Federal laboratories may take temporary assignments in the private sector.

Sec. 4. International Science and Technology. In order to ensure that the United States benefits from and fully exploits scientific research and technology developed abroad,

(a) The head of each Executive department and agency, when negotiating or entering into cooperative research and development agreements and licensing arrangements with foreign persons or industrial organizations (where these entities are directly or indirectly controlled by a foreign company or government), shall, in consultation with the United States Trade Representative, give appropriate consideration:

(1) to whether such foreign companies or governments permit and encourage United States agencies, organizations, or persons to enter into cooperative research and development agreements and licensing arrangements on a comparable basis;

(2) to whether those foreign governments have policies to protect the United States intellectual property rights; and

(3) where cooperative research will involve data, technologies, or products subject to national security export controls under the laws of the United States, to whether those foreign governments have adopted adequate measures to prevent the transfer of strategic technology to destinations prohibited under such national security export controls, either through participation in the Coordinating Committee for Multilateral Export Controls (COCOM) or through other international agreements to which the United States and such foreign governments are signatories.

(b) The Secretary of State shall develop a recruitment policy that encourages scientists and engineers from other Federal agencies, academic institutions, and industry to apply for assignments in embassies of the United States; and

(c) The Secretaries of State and Commerce and the Director of the National Science Foundation shall develop a central mechanism for the prompt and efficient dissemination of science and technology information developed abroad to users in Federal laboratories, academic institutions, and the private sector on a fee-for-service basis.

Sec. 5. Technology Transfer from the Department of Defense. Within 6 months of the date of this Order, the Secretary of Defense shall identify a list of funded technologies that would be potentially useful to United States industries and universities. The Secretary shall then accelerate efforts to make these technologies more readily available to United States industries and universities.

Sec. 6. Basic Science and Technology Centers. The head of each Executive department and agency shall examine the potential for including the establishment of university research centers in engineering, science, or technology in the strategy and planning for any future research and development programs. Such university centers shall be jointly funded by the Federal Government, the private sector, and, where appropriate, the States and shall focus on areas of fundamental research and technology that are both scientifically promising and have the potential to contribute to the Nation's long-term economic competitiveness.

Sec. 7. Reporting Requirements.

(a) Within 1 year from the date of this

Order, the Director of the Office of Science and Technology Policy shall convene an interagency task force comprised of the heads of representative agencies and the directors of representative Federal laboratories, or their designees, in order to identify and disseminate creative approaches to technology transfer from Federal laboratories. The task force will report to the President on the progress of and problems with technology transfer from Federal laboratories.

(b) Specifically, the report shall include:

(1) a listing of current technology transfer programs and an assessment of the effectiveness of these programs;

(2) identification of new or creative approaches to technology transfer that might serve as model programs for Federal laboratories;

(3) criteria to assess the effectiveness and impact on the Nation's economy of planned or future technology transfer efforts; and

(4) a compilation and assessment of the Technology Share Program established in Section 2 and, where appropriate, related cooperative research and development venture programs.

Sec. 8. Relation to Existing Law. Nothing in this Order shall affect the continued applicability of any existing laws or regulations relating to the transfer of United States technology to other nations. The head of any Executive department or agency may exclude from consideration, under this Order, any technology that would be, if transferred, detrimental to the interests of national security.

RONALD REAGAN

§ 3710a. Cooperative research and development agreements

(a) General authority

Each Federal agency may permit the director of any of its Government-operated Federal laboratories, and, to the extent provided in an agency-approved joint work statement, the director of any of its Government-owned, contractor-operated 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, or under other authorities (in the case of a Government-owned, contractor-operated laboratory, subject to subsection (c) of this section) for inventions made or other intellectual property developed at the laboratory and other inventions or other intellectual property that may be voluntarily assigned to the Government.

(b) Enumerated authority

Under agreements entered into pursuant to subsection (a)(1) of this section, a Government-operated Federal laboratory, and, to the extent provided in an agency-approved joint work statement, a Government-owned, contractor-operated 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 laboratory 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;

(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;

(4) determine rights in other intellectual property developed under an agreement entered into under subsection (a)(1) of this section; and

(5) 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.

A Government-owned, contractor-operated laboratory that enters into a cooperative research and development agreement under

subsection (a)(1) of this section may use or obligate royalties or other income accruing to such laboratory under such agreement with respect to any invention only (i) for payments to inventors; (ii) for the purposes described in section 3710c(a)(1)(B)(i), (ii), and (iv) of this title; and (iii) for scientific research and development consistent with the research and development mission and objectives of the laboratory.

(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 in permitting a Federal laboratory to enter into agreements under this section shall be guided by the purposes of this chapter.

(3)(A) Any agency using the authority given it under subsection (a) of this section shall review standards of conduct for its employees 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 presented by the director of a Government-operated laboratory, 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, by the director of a Government-operated laboratory 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.

(C)(i) Any agency which has contracted with a non-Federal entity to operate a laboratory shall review and approve, request specific modifications to, or disapprove a joint work statement that is submitted by the director of such laboratory within 90 days after such submission. In any case where an agency has requested specific modifications to a joint work statement, the agency shall approve or disapprove any resubmission of such joint work statement within 30 days after such resubmission, or 90 days after the original submission, whichever occurs later. No agreement may be entered into by a Government-owned, contractor-operated laboratory under this section before both approval of the agreement under clause (iv) and approval under this clause of a joint work statement.

(ii) In any case in which an agency which has contracted with a non-Federal entity to operate a laboratory disapproves or requests the modification of a joint work statement submitted under this section, the agency shall promptly transmit a written explanation of such disapproval or modification to the director of the laboratory concerned.

(iii) Any agency which has contracted with a non-Federal entity to operate a laboratory or laboratories shall develop and provide to such laboratory or laboratories one or more model cooperative research and development agreements, for the purposes of standardizing practices and procedures, resolving common legal issues, and enabling review of cooperative research and development agreements to be carried out in a routine and prompt manner.

(iv) An agency which has contracted with a non-Federal entity to operate a laboratory shall review each agreement under this section. Within 30 days after the presentation, by the director of the laboratory, of such agreement, the agency shall, on the basis of such review, approve or request specific modification to such agreement. Such agreement shall not take effect before approval under this clause.

(v) If an agency fails to complete a review under clause (iv) within the 30-day period specified therein, the agency shall submit to the Congress, within 10 days after the end of that 30-day period, a report on the reasons for such failure. The agency shall, at the end of each successive 30-day period thereafter during which such failure continues, submit to the Congress another report on the reasons for the continuing failure. Nothing in this clause relieves the agency of the requirement to complete a review under clause (iv).

(vi) In any case in which an agency which has contracted with a non-Federal entity to operate a laboratory requests the modification of an agreement presented under this section, the agency shall promptly transmit a written explanation of such modification to the director of the laboratory concerned.

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

(7)(A) No trade secrets or commercial or financial information that is privileged or confidential, under the meaning of section 552(b)(4) of Title 5, which is obtained in the conduct of research or as a result of activities under this chapter from a non-Federal party participating in a cooperative research and development agreement shall be disclosed.

(B) The director, or in the case of a contractor-operated laboratory, the agency, for a period of up to 5 years after development of information that results from research and development activities conducted under this chapter and that would be a trade secret or commercial or financial information that is privileged or confidential if the information had been obtained from a non-Federal party participating in a cooperative research and development agreement, may provide appropriate protections against the dissemination of such information, including exemption from subchapter II of chapter 5 of Title 5.

(d) Definitions

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;

(2) the term "laboratory" means—

(A) 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;

(B) a group of Government-owned, contractor-operated facilities under a common contract, when a substantial purpose of the contract is the performance of research and development for the Federal Government; and

(C) a Government-owned, contractor-operated facility that is not under a common contract described in subparagraph (B), and the primary purpose of which is the performance of research and development for the Federal Government,

but such term does not include any facility covered by Executive Order No. 12344, dated February 1, 1982, pertaining to the Naval nuclear propulsion program; and

(3) the term "joint work statement" means a proposal prepared for a Federal agency by the director of a Government-owned, contractor-operated laboratory describing the purpose and scope of a proposed cooperative research and development agreement, and assigning rights and responsibilities among the agency, the laboratory, and any other party or parties to the proposed agreement.

(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.

(g) Principles

In implementing this section, each agency which has contracted with a non-Federal entity to operate a laboratory shall be guided by the following principles:

(1) The implementation shall advance program missions at the laboratory, including any national security mission.

(2) Classified information and unclassified sensitive information protected by law, regulation, or Executive order shall be appropriately safeguarded.

(Pub.L. 96-480, § 12, as added and renumbered § 11, Pub.L. 99-502, §§ 2, 9(e)(1), Oct. 20, 1986, 100 Stat. 1785, 1797; renumbered § 12, Pub.L. 100-418, Title V, § 5122(a)(1), Aug. 23, 1988, 102 Stat. 1438; Pub.L. 100-519, Title III, § 301, Oct. 24, 1988, 102 Stat. 2597; Pub.L. 101-189, Div. C, Title XXXI, § 3133(a), (b), Nov. 29, 1989, 103 Stat. 1675-1677.)

Historical and Statutory Notes

References in Text. Executive Order No. 12344, referred to in subsec. (d)(2), is set out as a note under 42 U.S.C.A. § 7158.

1989 Amendment. Subsec. (a). Pub.L. 101-189, § 3133(a)(1)(A), inserted “, and, to the extent provided in an agency-approved joint work statement, the director of any of its Government-owned, contractor-operated laboratories” after “Government-operated Federal laboratories” in provisions preceding par. (1).

Subsec. (a)(2). Pub.L. 101-189, § 3133(a)(1)(B), (C), substituted “(in the case of a Government-owned, contractor-operated laboratory, subject to subsection (c) of this section) for inventions made or other intellectual property developed at the laboratory and other inventions or other intellectual property that” for “for Government-owned inventions made or other intellectual property developed at the laboratory and other inventions or other intellectual property of Federal employees that”.

Subsec. (b). Pub.L. 101-189, § 3133(a)(2)(A), inserted “, and, to the extent provided in an agency-approved joint work statement, a Government-owned, contractor-operated laboratory,” after “Government-operated Federal laboratory” in provisions preceding par. (1).

Pub.L. 101-189, § 3133(a)(2)(C), following numbered paragraphs, added undesignated provisions that a Government-owned, contractor-operated laboratory that enters into a cooperative research and development agreement under subsec. (a)(1) of this section may use or obligate royalties or other income accruing to such laboratory under such agreement with respect to any invention only (i) for payments to inventors; (ii) for the purposes described in section 3710c(a)(1)(B)(i), (ii), and (iv) of this title, and (iii) for scientific research and development consistent with the research and development mission and objectives of the laboratory.

Subsec. (b)(2). Pub.L. 101-189, § 3133(a)(2)(B), substituted “a laboratory employee” for “a Federal employee”.

Subsec. (c)(3)(A). Pub.L. 101-189, § 3133(a)(3), substituted “standards of conduct for its employees” for “employee standards of conduct”.

Subsec. (c)(5)(A). Pub.L. 101-189, § 3133(a)(4), inserted “presented by the

director of a Government-operated laboratory” after “any such agreement”.

Subsec. (c)(5)(B). Pub.L. 101-189, § 3133(a)(5), inserted “by the director of a Government-operated laboratory” after “an agreement presented”.

Subsec. (c)(5)(C). Pub.L. 101-189, § 3133(a)(6), added subpar. (C).

Subsec. (c)(7). Pub.L. 101-189, § 3133(a)(7), added par. (7).

Subsec. (d)(2). Pub.L. 101-189, § 3133(a)(8)(B), designated existing provisions in part as subpar. (A), added subpars. (B) and (C), and added provision, following subpar. (C), that such term does not include any facility covered by Executive Order No. 12344, dated February 1, 1982, pertaining to the Naval nuclear propulsion program.

Subsec. (d)(3). Pub.L. 101-189, § 3133(a)(8)(A), (C), added par. (3).

Subsec. (g). Pub.L. 101-189, § 3133(b), added subsec. (g).

1988 Amendment. Subsec. (a)(2). Pub.L. 100-519, § 301(1), inserted reference to other intellectual property, wherever appearing.

Subsec. (b)(4), (5). Pub.L. 100-519, § 301(2), added par. (4). Former par. (4) redesignated (5).

Magnetic Levitation Technology. Secretary of the Army, in cooperation with the Secretary of Transportation, authorized to conduct research and development activities on magnetic levitation technology with funds (\$1,000,000 authorized for fiscal year 1990 and \$4,000,000 authorized for fiscal year 1991) to remain available until expended, see section 417 of Pub.L. 101-640, set out as a note under 33 U.S.C.A. § 2313.

Contract Provisions. Section 3133(d) of Pub.L. 101-189; as amended Pub.L. 101-510, Div. A, Title VIII, § 828(a), Nov. 5, 1990, 104 Stat. 1607, provided that:

“(1) Not later than 150 days after the date of enactment of this Act [Nov. 29, 1989], each agency which has contracted with a non-Federal entity to operate a Government-owned laboratory shall propose for inclusion in that laboratory’s operating contract, to the extent not already included and subject to paragraph (6), appropriate contract provisions that—

"(A) establish technology transfer, including cooperative research and development agreements, as a mission for the laboratory under section 11(a)(1) of the Stevenson-Wydler Technology Innovation Act of 1980 [section 3710(a)(1) of this title];

"(B) describe the respective obligations and responsibilities of the agency and the laboratory with respect to this part [sections 3131 to 3133 of Pub.L. 101-189]; and section 12 of the Stevenson-Wydler Technology Innovation Act of 1980 [this section];

"(C) require that, except as provided in paragraph (2), no employee of the laboratory shall have a substantial role (including an advisory role) in the preparation, negotiation, or approval of a cooperative research and development agreement if, to such employee's knowledge—

"(i) such employee, or the spouse, child, parent, sibling, or partner of such employee, or an organization (other than the laboratory) in which such employee serves as an officer, director, trustee, partner, or employee—

"(I) holds a financial interest in any entity, other than the laboratory, that has a substantial interest in the preparation, negotiation, or approval of the cooperative research and development agreement; or

"(II) receives a gift or gratuity from any entity, other than the laboratory, that has a substantial interest in the preparation, negotiation, or approval of the cooperative research and development agreement; or

"(ii) a financial interest in any entity, other than the laboratory, that has a substantial interest in the preparation, negotiation, or approval of the cooperative research and development agreement, is held by any person or organization with whom such employee is negotiating or has any arrangement concerning prospective employment;

"(D) require that each employee of the laboratory who negotiates or approves a cooperative research and development agreement shall certify to the agency that the circumstances described in subparagraph (C)(i) and (ii) do not apply to such employee;

"(E) require the laboratory to widely disseminate information on opportunities to participate with the labo-

ratory in technology transfer, including cooperative research and development agreements; and

"(F) provides for an accounting of all royalty or other income received under cooperative research and development agreements.

"(2) The requirements described in paragraph (1)(C) and (D) shall not apply in a case where the negotiating or approving employee advises the agency that reviewed the applicable joint work statement under section 12(c)(5)(C)(i) of the Stevenson-Wydler Technology Innovation Act of 1980 [subsec. (c)(5)(C)(i) of this section] in advance of the matter in which he is to participate and the nature of any financial interest described in paragraph (1)(C), and where the agency employee determines that such financial interest is not so substantial as to be considered likely to affect the integrity of the laboratory employee's service in that matter.

"(3) Not later than 180 days after the date of enactment of this Act [Nov. 29, 1989], each agency which has contracted with a non-Federal entity to operate a Government-owned laboratory shall submit a report to the Congress which includes a copy of each contract provision amended pursuant to this subsection.

"(4) No Government-owned, contractor-operated laboratory may enter into a cooperative research and development agreement under section 12 of the Stevenson-Wydler Technology Innovation Act of 1980 [this section] unless—

"(A) that laboratory's operating contract contains the provisions described in paragraph (1)(A) through (F); or

"(B) such laboratory agrees in a separate writing to be bound by the provisions described in paragraph (1)(A) through (F).

"(5) Any contract for a Government-owned, contractor-operated laboratory entered into after the expiration of 150 days after the date of enactment of this Act [Nov. 29, 1989] shall contain the provisions described in paragraph (1)(A) through (F)."

"(6) Contract provisions referred to in paragraph (1) shall include only such provisions as are necessary to carry out paragraphs (1) and (2) of this subsection."

[Pub.L. 101-510, Div. A, Title VIII, § 828(b), Nov. 5, 1990, 104 Stat. 1607, provided that: "Paragraph (6) of 3133(d) of such Act [par. 6 of this note] as added

by subsection (a), shall apply only to contracts entered into after the date of enactment of this Act [Nov. 5, 1990]."

Legislative History. For legislative history and purpose of Pub.L. 99-502, see 1986 U.S. Code Cong. and Adm.

News, p. 3442. See, also, Pub.L. 100-418, 1988 U.S. Code Cong. and Adm. News, p. 1547; Pub.L. 100-519, 1988 U.S. Code Cong. and Adm. News, p. 3269; Pub.L. 101-189, 1989 U.S. Code Cong. and Adm. News, p. 838.

§ 3710b. 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, computer software, or other outstanding scientific or technological contributions of value to the United States due to commercial application 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 development 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.

(Pub.L. 96-480, § 13, as added and renumbered § 12, Pub.L. 99-502, §§ 6, 9(e)(1), Oct. 20, 1986, 100 Stat. 1792, 1797; renumbered § 13, Pub.L. 100-418, Title V, § 5122(a)(1), Aug. 23, 1988, 102 Stat. 1438; Pub.L. 100-519, Title III, § 302, Oct. 24, 1988, 102 Stat. 2597.)

Historical and Statutory Notes

1988 Amendment. Par. (1). Pub.L. 100-519, § 302, extended cash award program to include rewards for research and development of computer software.

Legislative History. For legislative history and purpose of Pub.L. 99-502,

see 1986 U.S. Code Cong. and Adm. News, p. 3442. See, also, Pub.L. 100-418, 1988 U.S. Code Cong. and Adm. News, p. 1547; Pub.L. 100-519, 1988 U.S. Code Cong. and Adm. News, p. 3269.

§ 3710c. 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 by Government-operated Federal laboratories under section 3710a of this title, and inventions of Government-operated Federal laboratories li-

censed under section 207 of Title 35, 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) has assigned his or her rights in the invention to the United States. This clause shall take effect on October 20, 1986 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 regulations providing for an alternative program for sharing royalties with inventors under clause (i). 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 application 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 October 20, 1986 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 October 20, 1986. If promulgation of the regulations occurs within two years after October 20, 1986, payments shall be made in accordance with such regulations, retroactive to October 20, 1986. 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, including payments to inventors and developers of sensitive or classified technology, regardless of whether the technology has commercial applications;

(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 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).

(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 may 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 (i) of paragraph (1)(B), and the cost of foreign patenting and maintenance for any invention of the other agency. 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 invention¹ 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 October 20, 1986, 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.

(Pub.L. 96-480, § 14, as added, renumbered § 13 and amended Pub.L. 99-502, §§ 7, 9(e)(1), (3), Oct. 20, 1986, 100 Stat. 1792, 1797; renumbered § 14 and amended Pub.L. 100-418, Title V, §§ 5122(a)(1), 5162(a), Aug. 23,

1988, 102 Stat. 1438, 1450; Pub.L. 100-519, Title III, § 303(a), Oct. 24, 1988, 102 Stat. 2597; Pub.L. 101-189, Div. C, Title XXXI, § 3133(c), Nov. 29, 1989, 103 Stat. 1677, 1678.)

¹ So in original. Probably should be "invention".

Historical and Statutory Notes

References in Text. Section 3710a of this title, referred to in subsec. (a)(1), was in the original a reference to section 11 of this Act, meaning section 11 of the Stevenson-Wydler Technology Innovation Act of 1980, Section 11 of the Act was renumbered section 12 by section 5122(a)(1) of Pub. L. 100-418 without corresponding amendment to this section.

Codification. Amendment to subsec. (a)(1) by section 9(e)(3) of Pub.L. 99-502, directing that "section 11" be substituted for "section 12" in provisions preceding subpar. (A), was not executed in view of renumbering of section 12 of Pub.L. 96-480 as section 11 by section 9(e)(1) of Pub.L. 99-502. Since both references translate as "section 3710a of this title" amendment by section 9(e)(3) of Pub.L. 99-502 resulted in no change in text.

1989 Amendment. Subsec. (a)(1). Pub.L. 101-189, § 3133(c)(1), in provisions preceding subpar. (A), substituted "entered into by Government-operated Federal laboratories under section 3710a of this title" for "entered into under section 3710a of this title". In the original, reference to "section 12" was substituted for reference to "section 11", both referring to sections of Pub.L. 96-480. Owing to the redesignation of section 11 of Pub.L. 96-480 as section 12 by Pub.L. 100-418, both references translate as "section 3710a of this title".

Subsec. (a)(1)(B)(ii). Pub.L. 101-189, § 3133(c)(2), inserted ", including payments to inventors and developers of sensitive or classified technology, regardless of whether the technology has commercial applications" after "that laboratory".

Subsec. (a)(1)(B)(iv). Pub.L. 101-189, § 3133(c)(3), substituted "technology of the laboratories" for "technology of the Government-operated laboratories".

1988 Amendment. Subsec. (a)(1)(A)(i). Pub.L. 100-519, § 303(a)(1), substituted provisions relative to the payment of royalties or other income to inventors who have assigned rights in inventions to the United States for provisions for the payment of such royalties and other income to inventors who were employees of the government agency at time the invention was made.

Subsec. (a)(1)(A)(ii). Pub.L. 100-519, § 303(a)(2), substituted provisions relative to the alternative program of sharing royalties with inventors under cl. (i) for provisions relative to the sharing of such royalties with inventors employed by the agency at the time the invention was made and whose names appear on licensed inventions.

Subsec. (a)(4). Pub.L. 100-418, § 5162(a), substituted "may retain such royalties" for "shall retain such royalties" and "any invention of the other agency" for "such invention performed at the request of the other agency or laboratory".

1986 Amendment. Subsec. (a)(1). Pub.L. 99-502, § 9(e)(3), in provisions preceding subpar. (A) substituted reference to section 11 of Pub.L. 96-480 for reference to section 12 of Pub.L. 96-480. See Codification note set out under this section.

Effective Date of 1988 Amendment. Section 303(b) of Pub.L. 100-519 provided that: "This section [amending subsec. (a)(1)(A)(i) and (ii) of this section] shall be effective as of October 20, 1986."

Legislative History. For legislative history and purpose of Pub.L. 99-502, see 1986 U.S. Code Cong. and Adm. News, p. 3442. See, also, Pub.L. 100-418, 1988 U.S. Code Cong. and Adm. News, p. 1547; Pub.L. 100-519, 1988 U.S. Code Cong. and Adm. News, p. 3269; Pub.L. 101-189, 1989 U.S. Code Cong. and Adm. News, p. 838.

Law Review Commentaries

Government exchange of technology under the Federal Technology Transfer Act of 1986. Maurice W. Ryan and Mar-

garet M. Rioux, 36 Fed.B.News & J. 47 (January 1989).

§ 3710d. Employee activities**(a) In general**

If a Federal agency which has the right of ownership to an invention under this chapter 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) "Special Government employees" defined

For purposes of this section, Federal employees include "special Government employees" as defined in section 202 of Title 18.

(c) Relationship to other laws

Nothing in this section is intended to limit or diminish existing authorities of any agency.

(Pub.L. 96-480, § 15, as added and renumbered § 14, Pub.L. 99-502, §§ 8, 9(e)(1), Oct. 20, 1986, 100 Stat. 1794, 1797; renumbered § 15, Pub.L. 100-418, Title V, § 5122(a)(1), Aug. 23, 1988, 102 Stat. 1438.)

Historical and Statutory Notes

Legislative History. For legislative history and purpose of Pub.L. 99-502, see 1986 U.S. Code Cong. and Adm. News, p. 3442. See, also, Pub.L. 100-418, 1988 U.S. Code Cong. and Adm. News, p. 1547.

§ 3711. National Technology Medal

(a) Establishment.—There is hereby established a National Technology Medal, which shall be of such design and materials and bear such inscriptions as the President, on the basis of recommendations submitted by the Office of Science and Technology Policy, may prescribe.

(b) Award.—The President shall periodically award the medal, on the basis of recommendations received from the Secretary or on the basis of such other information and evidence as he deems appropriate, to individuals or companies, which in his judgment are deserving of special recognition by reason of their outstanding contributions to the promotion of technology or technological manpower for the improvement of the economic, environmental, or social well-being of the United States.

(c) **Presentation.**—The presentation of the award shall be made by the President with such ceremonies as he may deem proper. (Pub.L. 96-480, § 16, formerly § 12, Oct. 21, 1980, 94 Stat. 2319, renumbered § 16, Pub.L. 99-502, § 2, Oct. 20, 1986, 100 Stat. 1785; renumbered § 15, Pub.L. 99-502, § 9(e)(1), Oct. 20, 1986, 100 Stat. 1797; renumbered § 16, Pub.L. 100-418, Title V, § 5122(a)(1), Aug. 23, 1988, 102 Stat. 1438.)

Historical and Statutory Notes

Legislative History. For legislative history and purpose of Pub.L. 96-480, see 1980 U.S. Code Cong. and Adm. News, p. 4892. See, also, Pub.L. 100-418, 1988 U.S. Code Cong. and Adm. News, p. 1547.

§ 3711a. Malcolm Baldrige National Quality Award

(a) Establishment

There is hereby established the Malcolm Baldrige National Quality Award, which shall be evidenced by a medal bearing the inscriptions "Malcolm Baldrige National Quality Award" and "The Quest for Excellence." The medal shall be of such design and materials and bear such additional inscriptions as the Secretary may prescribe.

(b) Making and presentation of award

(1) The President (on the basis of recommendations received from the Secretary), or the Secretary, shall periodically make the award to companies and other organizations which in the judgment of the President or the Secretary have substantially benefited the economic or social well-being of the United States through improvements in the quality of their goods or services resulting from the effective practice of quality management, and which as a consequence are deserving of special recognition.

(2) The presentation of the award shall be made by the President or the Secretary with such ceremonies as the President or the Secretary may deem proper.

(3) An organization to which an award is made under this section, and which agrees to help other American organizations improve their quality management, may publicize its receipt of such award and use the award in its advertising, but it shall be ineligible to receive another such award in the same category for a period of 5 years.

(c) Categories in which award may be given

(1) Subject to paragraph (2), separate awards shall be made to qualifying organizations in each of the following categories—

(A) Small businesses.

(B) Companies or their subsidiaries.

(C) Companies which primarily provide services.

(2) The Secretary may at any time expand, subdivide, or otherwise modify the list of categories within which awards may be made as initially in effect under paragraph (1), and may establish separate awards for other organizations including units of government, upon a determination that the objectives of this section would be better served thereby; except that any such expansion, subdivision, modification, or establishment shall not be effective unless and until the Secretary has submitted a detailed description thereof to the Congress and a period of 30 days has elapsed since that submission.

(3) Not more than two awards may be made within any subcategory in any year (and no award shall be made within any category or subcategory if there are no qualifying enterprises in that category or subcategory).

(d) Criteria for qualification

(1) An organization may qualify for an award under this section only if it—

(A) applies to the Director of the National Institute of Standards and Technology in writing, for the award,

(B) permits a rigorous evaluation of the way in which its business and other operations have contributed to improvements in the quality of goods and services, and

(C) meets such requirements and specifications as the Secretary, after receiving recommendations from the Board of Overseers established under paragraph (2)(B) and the Director of the National Institute of Standards and Technology, determines to be appropriate to achieve the objectives of this section.

In applying the provisions of subparagraph (C) with respect to any organization, the Director of the National Institute of Standards and Technology shall rely upon an intensive evaluation by a competent board of examiners which shall review the evidence submitted by the organization and, through a site visit, verify the accuracy of the quality improvements claimed. The examination should encompass all aspects of the organization's current practice of quality management, as well as the organization's provision for quality management in its future goals. The award shall be given only to organizations which have made outstanding improvements in the quality of their goods or services (or both) and which demonstrate effective quality management through the training and involvement of all levels of personnel in quality improvement.

(2)(A) The Director of the National Institute of Standards and Technology shall, under appropriate contractual arrangements, carry out the Director's responsibilities under subparagraphs (A) and (B) of paragraph (1) through one or more broad-based nonprof-

it entities which are leaders in the field of quality management and which have a history of service to society.

(B) The Secretary shall appoint a board of overseers for the award, consisting of at least five persons selected for their preeminence in the field of quality management. This board shall meet annually to review the work of the contractor or contractors and make such suggestions for the improvement of the award process as they deem necessary. The board shall report the results of the award activities to the Director of the National Institute of Standards and Technology each year, along with its recommendations for improvement of the process.

(e) Information and technology transfer program

The Director of the National Institute of Standards and Technology shall ensure that all program participants receive the complete results of their audits as well as detailed explanations of all suggestions for improvements. The Director shall also provide information about the awards and the successful quality improvement strategies and programs of the award-winning participants to all participants and other appropriate groups.

(f) Funding

The Secretary is authorized to seek and accept gifts from public and private sources to carry out the program under this section. If additional sums are needed to cover the full cost of the program, the Secretary shall impose fees upon the organizations applying for the award in amounts sufficient to provide such additional sums.

(g) Report

The Secretary shall prepare and submit to the President and the Congress, within 3 years after August 20, 1987, a report on the progress, findings, and conclusions of activities conducted pursuant to this section along with recommendations for possible modifications thereof.

(Pub.L. 96-480, § 17, formerly § 16, as added Pub.L. 100-107, § 3(a), Aug. 20, 1987, 101 Stat. 725; renumbered § 17 and amended Pub.L. 100-418, Title V, §§ 5115(b)(2)(A), 5122(a)(1), Aug. 23, 1988, 102 Stat. 1433, 1438.)

Historical and Statutory Notes

1988 Amendment. Subsec. (d). Pub.L. 100-418, § 5115(b)(2)(A), substituted "National Institute of Standards and Technology" for "National Bureau of Standards" wherever appearing.

Subsec. (e). Pub.L. 100-418, § 5115(b)(2)(A), substituted "National Institute of Standards and Technology" for "National Bureau of Standards".

Congressional Findings and Statement of Purpose. Section 2 of Pub.L. 100-107 provided that:

"(a) Findings.—The Congress finds and declares that—

"(1) the leadership of the United States in product and process quality has been challenged strongly (and sometimes successfully) by foreign competition, and our Nation's produc-

tivity growth has improved less than our competitors over the last two decades;

"(2) American business and industry are beginning to understand that poor quality costs companies as much as 20 percent of sales revenues nationally, and that improved quality of goods and services goes hand in hand with improved productivity, lower costs, and increased profitability;

"(3) strategic planning for quality and quality improvement programs, through a commitment to excellence in manufacturing and services, are becoming more and more essential to the well-being of our Nation's economy and our ability to compete effectively in the global marketplace;

"(4) improved management understanding of the factory floor, worker involvement in quality, and greater emphasis on statistical process control can lead to dramatic improvements in the cost and quality of manufactured products;

"(5) the concept of quality improvement is directly applicable to small companies as well as large, to service industries as well as manufacturing, and to the public sector as well as private enterprise;

"(6) in order to be successful, quality improvement programs must be management-led and customer-oriented and this may require fundamental changes in the way companies and agencies do business;

"(7) several major industrial nations have successfully coupled rigorous private sector quality audits with national awards giving special recognition to those enterprises the audits identify as the very best; and

"(8) a national quality award program of this kind in the United States

would help improve quality and productivity by—

"(A) helping to stimulate American companies to improve quality and productivity for the pride of recognition while obtaining a competitive edge through increased profits,

"(B) recognizing the achievements of those companies which improve the quality of their goods and services and providing an example to others,

"(C) establishing guidelines and criteria that can be used by business, industrial, governmental, and other organizations in evaluating their own quality improvement efforts, and

"(D) providing specific guidance for other American organizations that wish to learn how to manage for high quality by making available detained information on how winning organizations were able to change their cultures and achieve eminence.

"(b) **Purpose.**—It is the purpose of this Act [enacting this section, amending section 3708 of this title, and enacting a provision set out as a note under section 3701 of this title] to provide for the establishment and conduct of a national quality improvement program under which (1) awards are given to selected companies and other organizations in the United States that practice effective quality management and as a result make significant improvements in the quality of their goods and services, and (2) information is disseminated about the successful strategies and programs."

Legislative History. For legislative history and purpose of Pub.L. 100-107, see 1987 U.S.Code Cong. and Adm.News, p. 722. See, also, Pub.L. 100-418, 1988 U.S.Code Cong. and Adm.News, p. 1547.

§ 3712. 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. (Pub.L. 96-480, § 18, formerly § 13, Oct. 21, 1980, 94 Stat. 2320; renumbered § 17, Pub.L. 99-502, § 2, Oct. 20, 1986, 100 Stat. 1785; renumbered § 16, Pub.L. 99-502, § 9(e)(1), Oct. 20, 1986, 100 Stat. 1797; renumbered § 17, Pub.L. 100-107, § 3(a), Aug. 20, 1987, 101 Stat. 725; renumbered § 18, Pub.L. 100-418, Title V, § 5122(a)(1), Aug. 23, 1988, 102 Stat. 1438.)

Historical and Statutory Notes

Legislative History. For legislative history and purpose of Pub.L. 96-480, see 1980 U.S.Code Cong. and Adm.News, p. 4892. See, also, Pub.L. 100-418, 1988 U.S. Code Cong. and Adm.News, p. 1547.

Library References

Indians ⇐10.

Public Lands ⇐3.

C.J.S. Indians § 19 et seq.

C.J.S. Public Lands § 37 et seq.

§ 3713. Authorization of appropriations

(a)(1) There is authorized to be appropriated to the Secretary for the purposes of carrying out sections 3704, 3710(g), and 3711 of this title not to exceed \$3,400,000 for the fiscal year ending September 30, 1988.

(2) Of the amount authorized under paragraph (1) of this subsection, \$2,400,000 is authorized only for the Office of Productivity, Technology, and Innovation; \$500,000 is authorized only for the purpose of carrying out the requirements of the Japanese technical literature program established under section 3704(d) of this title; and \$500,000 is authorized only for the patent licensing activities of the National Technical Information Service.

(b) In addition to the authorization of appropriations provided under subsection (a) of this section, there is authorized to be appropriated to the Secretary for the purposes of carrying out section 3704a of this title not to exceed \$500,000 for the fiscal year ending September 30, 1988, \$1,000,000 for the fiscal year ending September 30, 1989, and \$1,500,000 for the fiscal year ending September 30, 1990.

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

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

(Pub.L. 96-480, § 19, formerly § 14, Oct. 21, 1980, 94 Stat. 2320; renumbered § 18, Pub.L. 99-502, § 2, Oct. 20, 1986, 100 Stat. 1785; renumbered § 17, Pub.L. 99-502, § 9(e)(1), Oct. 20, 1986, 100 Stat. 1797; renumbered § 18, Pub.L. 100-107, § 3(a), Aug. 20, 1987, 101 Stat. 725; renumbered § 19 and amended, Pub.L. 100-418, Title V, §§ 5122(a)(1), 5152, Aug. 23, 1988, 102 Stat. 1438, 1449.)

Historical and Statutory Notes

1988 Amendment. Subsec. (a)(1). Pub.L. 100-418, § 5152, designated existing provisions of subsec. (a) as par. (1) and, in par. (1) as so designated, substituted "There is authorized to be appropriated to the Secretary for the purposes

of carrying out sections 3704, 3710(g), and 3711 of this title not to exceed \$3,400,000 for the fiscal year ending September 30, 1988" for "There is authorized to be appropriated to the Secretary for purposes of carrying out section 3705

of this title, 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."

Subsec. (a)(2). Pub.L. 100-418, § 5152, added par. (2).

Subsec. (b). Pub.L. 100-418, § 5152, substituted "In addition to the authorization of appropriations provided under subsection (a) of this section, there is authorized to be appropriated to the Secretary for the purposes of carrying out section 3704a of this title not to exceed \$500,000 for the fiscal year ending September 30, 1988, \$1,000,000 for the fiscal

year ending September 30, 1989, and \$1,500,000 for the fiscal year ending September 30, 1990" for "In addition to authorizations of appropriations under subsection (a) of this section, there is authorized to be appropriated to the Secretary for purposes of carrying out the provisions of this chapter, 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".

Legislative History. For legislative history and purpose of Pub.L. 96-480, see 1980 U.S.Code Cong. and Adm.News, p. 4892. See, also, Pub.L. 100-418, 1988 U.S. Code Cong. and Adm.News, p. 1547.

Library References

Indians ⇐10.
Public Lands ⇐3.

C.J.S. Indians § 19 et seq.
C.J.S. Public Lands § 37 et seq.

§ 3714. Spending authority

No payments shall be made or contracts shall be entered into pursuant to the provisions of this chapter (other than sections 3710a, 3710b and 3710c of this title) except to such extent or in such amounts as are provided in advance in appropriation Acts.

(Pub.L. 96-480, § 20, formerly § 15, Oct. 21, 1980, 94 Stat. 2320; renumbered § 19 and amended Pub.L. 99-502, §§ 2, 9(b)(13), Oct. 20, 1986, 100 Stat. 1785, 1796; renumbered § 18 and amended Pub.L. 99-502, §§ 9(e)(1), (4), Oct. 20, 1986, 100 Stat. 1797; renumbered § 19, Pub.L. 100-107, § 3(a), Aug. 20, 1987, 101 Stat. 725; renumbered § 20, Pub.L. 100-418, Title V, § 5122(a)(1), Aug. 23, 1988, 102 Stat. 1438.)

Historical and Statutory Notes

References in Text. Sections 3710a, 3710b, and 3710c of this title, referred to in text; were in the original references to sections 11, 12, and 13 of this Act, respectively, meaning sections 11, 12, and 13 of the Stevenson-Wydler Technology Innovation Act 1980, Sections 11, 12, and 13 of the Act were renumbered sections 12, 13, and 14 respectively, by section 5122(a)(1) of Pub. L. 100-418, without corresponding amendment to this section.

1986 Amendment. Pub.L. 99-502, § 9(b)(13), added exception relating to

sections 3710a, 3710b and 3710c of this title.

Pub.L. 99-502, § 9(e)(4), substituted references to sections 11, 12 and 13 of Pub.L. 96-480 for references to sections 12, 13 and 14 of Pub.L. 96-480. See Codification note set out under this section.

Legislative History. For legislative history and purpose of Pub.L. 96-480, see 1980 U.S.Code Cong. and Adm.News, p. 4892. See, also, Pub.L. 99-502, 1986 U.S. Code Cong. and Adm. News, p. 3442; Pub.L. 100-418, 1988 U.S.Code Cong. and Adm.News, p. 1547.

Library References

Indians ⇐10.

Public Lands ⇐3.

C.J.S. Indians § 19 et seq.
C.J.S. Public Lands § 37 et seq.

§ 3715. Use of partnership intermediaries

(a) Authority

Subject to the approval of the Secretary or head of the affected department or agency, the Director of a Federal laboratory, or in the case of a federally funded research and development center, the Federal employee who is the contract officer, may—

(1) enter into a contract or memorandum of understanding with a partnership intermediary that provides for the partnership intermediary to perform services for the Federal laboratory that increase the likelihood of success in the conduct of cooperative or joint activities of such Federal laboratory with small business firms; and

(2) pay the Federal costs of such contract or memorandum of understanding out of funds available for the support of the technology transfer function pursuant to section 3710(b) of this title.

(b) Partnership progress reports

The Secretary shall include in each triennial report required under section 3704b(d) of this title a discussion and evaluation of the activities carried out pursuant to this section during the period covered by the report.

(c) Definition

For purposes of this section, the term “partnership intermediary” means an agency of a State or local government, or a nonprofit entity owned in whole or in part by, chartered by, funded in whole or in part by, or operated in whole or in part by or on behalf of a State or local government, that assists, counsels, advises, evaluates, or otherwise cooperates with small business firms that need or can make demonstrably productive use of technology-related assistance from a Federal laboratory, including State programs receiving funds under cooperative agreements entered into under section 5121(b) of the Omnibus Trade and Competitiveness Act of 1988 (15 U.S.C. 2781 note).

(Pub.L. 96-480, § 21, as added Pub.L. 101-510, Div. A, Title VIII, § 827(a), Nov. 5, 1990, 104 Stat. 1606.)

Historical and Statutory Notes

References in Text. Section 5121(b) of the Omnibus Trade and Competitiveness Act of 1988, referred to in subsec. (c), is classified to 15 U.S.C.A. § 2781 note.

Legislative History. For legislative history and purpose of Pub.L. 101-510, see 1990 U.S. Code Cong. and Adm. News, p. 2931.

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TYPE: INFORMATION

DOCUMENT NUMBER: 9121836

ORIGINATOR: 02

STATUS C

DIRECTORATE STATUS

FROM: SCHMID, Loren: FEDERAL LABORATORY CONSORTIUM

TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 06/14/91

SUBJECT: RE: THE FEDERAL LABORATORY CONSORTIUM FOR TECHNOLOGY
TRANSFER ANNUAL REPORT.

DIRECTORATE STAFF
ASSIGNED: ASSIGNED:

ACTION STAFF
REQUIRED: ACTION:

SENDER'S DUE DATE:
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Federal Laboratory Consortium

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OFFICE OF THE
DIRECTOR

June 14, 1991

The Honorable D. Allan Bromley
Director, Office of Science and Technology Policy
Executive Office of the President
Old Executive Office Building
Washington, DC 20506

Subject: The Federal Laboratory Consortium for Technology Transfer
Annual Report

Dear Dr. Bromley:

I presented the Federal Laboratory Consortium for Technology Transfer (FLC) annual report to Congress in a statement on May 3, 1990, to the Science, Research & Technology Subcommittee of the House Committee on Science, Space & Technology. The enclosed report provides additional detail and covers information through FY 1990.

The report concentrates on major initiatives undertaken by the FLC, and we welcome the opportunity to expand on any area. A special focus at the national and regional level continues to be a strengthening of local resources for supporting the hard to reach smaller businesses as well as larger businesses.

A summary is enclosed of "Putting Technology to Work", 1988 and 1990, that provides examples of technology transfer success stories. These documents describe various tools and techniques used by federal laboratories to facilitate technology transfer.

I will be pleased to respond to any questions you may have about the FLC and the services it provides.

Sincerely,

Loren C. Schmid

Dr. Loren Schmid
FLC Chairman

Enclosures

FLC CHAIRMAN

Pacific Northwest Laboratory

• P.O. Box 999 - MS K1-34

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DR. LOREN C. SCHMID

• (509) 375-2559

FEDERAL LABORATORY CONSORTIUM FOR TECHNOLOGY TRANSFER

SUMMARY

PUTTING TECHNOLOGY TO WORK

1988 Document available from NTIS as PB-88-243357

1990 Document available from NTIS as PB-90-215187
(or available from the Federal Laboratory Consortium)

FEDERAL LABORATORY TECHNOLOGY TRANSFER PUTTING TECHNOLOGY TO WORK

BACKGROUND:

America's Federal research and development community represents a reservoir of technologies, expertise, and facilities which can be applied for the benefit of our domestic industry. This reservoir is the raw material of the age of technology, requiring cooperative refinement, application and packaging to become a powerful force for economic growth in America and for strengthening this country's competitive position in the world economy. Materials, techniques, formulas, and methods have been developed within Federal laboratories for which commercial uses have yet to be devised. Instrumentation, hardware, software, and process technologies are all part of these Federal resources.

Technology and expertise are available in virtually every area of science and engineering, including:

- Manufacturing technology
- Advanced materials
- Microelectronics
- Environmental protection
- Energy
- Building and construction
- Agriculture
- Transportation
- Ocean science
- Medicine
- Biotechnology
- Communication
- Computers
- Superconductivity

Government agencies and laboratories are striving to insure full value return for the Nation's investment in Federal research and development by offering cooperation and assistance to those who can take advantage of it for expanded use.

America's industry - businesses large and small - is in an enviable position to use this resource of knowledge and technology to enable competitive pursuit of both domestic and foreign markets. This resource can be transformed into new and improved products and services with tremendous potential for America's economy.

THE FEDERAL LABORATORY CONSORTIUM:

The need for more effective use of Federally developed technology led to the establishment in 1974 of the Federal Laboratory Consortium for Technology Transfer. The Stevenson-Wydler Technology Innovation Act of 1980 identified the Consortium as an essential component of the total technology transfer and utilization process. The Federal Technology Transfer Act of 1986 strengthened the Consortium and made it easier for American companies to work with Federal research and development organizations.

This new law encourages Federal laboratories to enter into cooperative agreements with the private sector. It gave laboratories wide flexibility regarding the use of staff, facilities, and equipment, and in intellectual property matters, to encourage increased cooperation and teamwork with private enterprise.

The Consortium is a service organization dedicated to the goal of facilitating technology transfer between the individual laboratory members and the potential users of government developed technologies. The FLC network includes nearly 400 Federal laboratories and research centers representing twelve different agencies. One strength of the network is the ability to put the potential user in contact with a Federal laboratory professional with expertise in his specific area of interest.

TECHNOLOGY TRANSFER MECHANISMS:

A wide variety of technology transfer mechanisms has proven effective. The arrangements for cooperation are made between the company and the laboratory and typically are tailored to the individual situation.

The mechanisms used in cooperating with industry may include the following:

- A. Cooperative research projects in which industry and laboratory researchers work together on projects of mutual interest;
- B. Workshops, seminars, and briefings put on by laboratory scientists to disseminate information on new or emerging technologies with possible applications to industry;
- C. Exclusive or non-exclusive licensing;
- D. Sponsored research where industry reimburses the laboratory for work done at the facility;
- E. Consulting by technical and scientific laboratory personnel with unique expertise;
- F. Employee exchange where researchers from the laboratory and industry trade assignments in areas of mutual interest;
- G. Use of laboratory facilities where unique capabilities are present that are not commercially available;
- H. Individual visits to laboratories to share information and discuss technical problems;
- I. Information dissemination through publications and other printed documentation; and,
- J. Membership in Industrial Affiliates organizations associated with the Federal laboratories.

The above mechanisms do not represent an all inclusive list and may also be employed in various combinations as appropriate to the needs of the particular technology being transferred.

PUTTING TECHNOLOGY TO WORK - 1990

LISTING OF TECHNOLOGY TRANSFERS

Following are examples of successful cases of technology transfer. They are meant to illustrate the opportunities available and possible transfer methods. This is only a sample to encourage potential users to tap the large reservoir of scientific and technical resources present in the Federal laboratories. It is hoped that the uses and benefits described will attract other potential users.

SECTION A: COOPERATIVE RESEARCH PROJECTS

PAGE	TECHNOLOGY	LABORATORY
15	High Strength Copper Composites	DOE - Ames Laboratory
16	The Emissions and Dispersion Modeling System (EDMS)	DOO - AF Engineering Services Laboratory
17	Reliability, Availability, and Maintainability in Computer-Aided Design	DOO - AF Human Resources Laboratory
18	Crew Chief: A Computer Graphics Model of a Maintenance Technician	DOO - AF Human Resources Laboratory
19	Ultrasonic Wall Thickness Measurement System	DOE - Rocky Flats Plant
20	Precision Part Transfer System	DOE - Rocky Flats Plant
21	Cooperative R&D Agreement in Photonics	DOO - AF Rome Air Development Center
22	Human Genome Collaborative R&D Initiative	DOE - Los Alamos National Laboratory
23	Unique Blades Give New Wings to the U.S. Wind Industry	DOE - Solar Energy Research Institute
24	Unique Insulation Attracts Industry Partners	DOE - Solar Energy Research Institute
26	Industry Consortium Develops Unique Wood-to-Phenol Process	DOE - Solar Energy Research Institute
28	Prisons Discover the Space Age	NASA - Jet Propulsion Laboratory
29	End-Use Energy Metering	DOE - Pacific Northwest Laboratory

SECTION B: WORKSHOPS, SEMINARS AND BRIEFINGS

PAGE	TECHNOLOGY	LABORATORY
33	Halogenated Solvent Alternatives	DOE - Rocky Flats Plant
34	Microwave Solidification System	DOE - Rocky Flats Plant
35	Innovative Superconductivity Alliance	DOE - Solar Energy Research Institute
36	Human Systems Divisions Briefing to Industry	DOO - AF Human Systems Division
37	Tech-Link 89	DOE - Los Alamos National Laboratory
38	Structural Collapse Rescue Technologies	DOE - Los Alamos National Laboratory
39	Innovative Concepts Fair	DOE - Pacific Northwest Laboratory

SECTION C: LICENSING

43	The Ferrous Sulfate/Sodium Sulfide Industrial Wastewater Metals Treatment Process	DOO - AF Engineering and Services Laboratory
44	Commercialization of Thermite Reduction Process Results from Cooperative Effort	DOE - Ames Laboratory
46	Portal Monitor - Extremely Sensitive Radiation Contamination Detector	DOE - Idaho National Engineering Laboratory
47	Common File System	DOE - Los Alamos National Laboratory
48	The Eddy-Current Superconductor Characterization Technique	DOE - Los Alamos National Laboratory
49	Chemiluminescent Technology	DOO - Naval Weapons Center
50	Computer Aided Design	DOO - Army Ballistic Research Laboratory
51	In Situ Vitrification	DOE - Pacific Northwest Laboratory
53	TEMPEST - A Computer Code for Three-Dimensional Transient Hydrothermal Analysis	DOE - Pacific Northwest Laboratory

<u>PAGE</u>	<u>TECHNOLOGY</u>	<u>LABORATORY</u>
54	Converting Fermentable Carbohydrates to Acrylic Esters	DOE - Pacific Northwest Laboratory
55	Antibodies Aid Cancer Treatment	DOE - Lawrence Livermore National Laboratory
56	Instrumentation to be Used in AIDS, Lukemia Research	DOE - Lawrence Livermore National Laboratory
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60	The FASTCHEM Technology	DOE - Pacific Northwest Laboratory
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63	SERI and Rentech, Inc. Make Clean-Burning Diesel Fuel From Natural Gas	DOE - Solar Energy Research Institute
64	IRRAS - Integrated IBM PC-Based Probabilistic Risk Assessment Analysis Tool	DOE - Idaho National Engineering Laboratory
65	Glassification Waste Treatment	DOE - Pacific Northwest Laboratory
SECTION F: USE OF LABORATORY FACILITIES		
69	Coating Large Optical Surfaces	DOE - Pacific Northwest Laboratory
SECTION G: INFORMATION DISSEMINATION		
73	Solvent Capacity Test Kit	DOE - AF Engineering and Services Laboratory
74	Simon PC/PS2 4.0-Personal Computer Program	DOE - Idaho National Engineering Laboratory

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77	Effects of Trace Elements on Weldability of Steels	DOE - Rocky Flats Plant
79	Computerized Selection of Binary Metal Alloys	DOE - Rocky Flats Plant
80	Software Enhancement for Scanning Electron Microscopes	DOE - Rocky Flats Plant
81	Ten Micrometer Size Selective Air Samples	DOE - Rocky Flats Plant
82	EDM Programming with Parametric Equations	DOE - Rocky Flats Plant
83	Automated Storage and Retrieval System	DOE - Rocky Flats Plant
84	Human Cell Acute Toxicity Assay	DOE - Rocky Flats Plant
85	Beryllium Antibody Screening	DOE - Rocky Flats Plant
86	LLNL Code Used to Measure Computational Speed	DOE - Lawrence Livermore National Laboratory
SECTION H: OTHER MECHANISMS		
89	Electro-Optical Vision Produces High-Quality Images During Welding Process	DOE - Idaho National Engineering Laboratory
90	Fermi Industrial Affiliates	DOE - Fermi National Accelerator Laboratory
91	Flow Cytometry Instrumentation: Future Market Changes	DOE - Los Alamos National Laboratory
93	Highly Accurate Casting Process for Metal and Ceramic Matrix Composite Materials	DOE - Strategic Defense Initiative Organization
95	Chemical Vapor Deposition Diamond Coatings for Optics, Electronics and Medical Applications	DOE - Strategic Defense Initiative Organization
96	Magnetic Suspension in Cataract Treatment	DOE - Strategic Defense Initiative Organization

LISTING OF TECHNOLOGY TRANSFER BY INDUSTRIES

To assist the reader in searching for successful transfers in specific areas of interest, the cases are listed by broad industrial classes.

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17	Reliability, Availability, and Maintainability in Computer-Aided Design
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34	Microwave Solidification System
36	Human Systems Division Briefing to Industry

AUTO, TRUCKS, AND PARTS, AND OTHER TRANSPORTATION EQUIPMENT

75	Environmentally Acceptable Fire Training Facility
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CHEMICALS

24	Unique Insulation Attracts Industry Partners
33	Halogenated Solvent Alternatives
49	Chemiluminescent Technology
73	Solvent Capacity Test Kit
54	Converting Fermentable Carbohydrates to Acrylate Esters

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44	Commercialization of Thermite Reduction Process Results from Cooperative Effort
21	Cooperative R&D Agreement in Photonics
23	Unique Blades Give New Wings to the U.S. Wind Industry
28	Prisons Discover the Space Age

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35	Innovative Superconductivity Alliance
29	End-Use Energy Metering
39	Innovative Concepts Fair
47	Common File System
64	IRRAS - Integrated IBM PC-Based Probabilistic Risk Assessment Analysis Tool

MACHINERY

44	Commercialization of Thermite Reduction Process Results from Cooperative Effort
20	Precision Part Transfer System
38	Structural Collapse Rescue Technologies
82	EDM Programming with Parametric Equations
59	High-Speed Inspection

NONFERROUS METALS

15	High-Strength Copper Composites
79	Computerized Selection of Binary Metal Alloys

PETROLEUM PRODUCTS

26	Industry Consortium Develops Unique Wood-to-Phenol Process
63	SERI and Rentech, Inc. Make Clean-Burning Diesel Fuel from Natural Gas
60	The FASTCHEM Technology

PROFESSIONAL AND SCIENTIFIC INSTRUMENTS

19	Ultrasonic Wall Thickness Measurement System
22	Human Genome Collaborative R&D Initiatives
43	The Ferrous Sulfate/Sodium Sulfide Industrial Wastewater Metals Treatment Process

<u>PAGE</u>	<u>TECHNOLOGY</u>	<u>LABORATORY</u>	<u>PAGE</u>	<u>TECHNOLOGY</u>	<u>LABORATORY</u>
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42	Air Pollution Improvement	DOE-Sandia National Laboratories	54	Quick and Accurate Determination of Henry's Law Constants	DOE-Air Force Engineering and Services Center
42	Mercury Cadmium Telluride Infrared Detectors	DOO-Naval Weapons Center	55	The Chemist's Workbench	DOO-Army Chemical RD&E Center
43	The Impact of Tevatron Technology	DOE-Fermi National Accelerator Laboratory	56	Ultra Clean Steel	DOO-Army Benet Laboratory
43	Millimeter Wave Ferrite Materials	DOO-Army Electronics Technology and Devices Laboratory	57	New Lightweight Wheelchair	MASA-Langley Research Center
44	Teaching an Old Code New Tricks: COMIX Code for Metal Casting	DOE-Argonne National Laboratory	58	Indoor Antenna Measurements Replace Costly Outdoor Ranges	DOO-National Bureau of Standards
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45	Superconducting Cable	DOE-Lawrence Berkeley Laboratory	60	Gas Leak Standards	DOE-Sandia National Laboratories
45	Anemia and Immunosuppression	DOE-Lawrence Berkeley Laboratory	61	Calculating Ground State Properties of Metals and Alloys	DOE-Sandia National Laboratories
46	Modified Nucleotides	DOE-Lawrence Berkeley Laboratory	62	Integrated Circuit Manufacturing	DOE-Sandia National Laboratories
46	Spock Supercomputer	DOO-Strategic Defense Initiatives Organization	63	Utility Demand-Side Resources	DOE-Lawrence Berkeley Laboratory
47	New Materials for Automotive and Aerospace Applications	DOO-Strategic Defense Initiatives Organization	63	Energy-Efficient Refrigerators	DOE-Lawrence Berkeley Laboratory
47	Applications of Pulse Power Transmission Technology to Oil Well Drilling	DOO-Strategic Defense Initiatives Organization	67	Simple Test for Sickle-Cell Anemia Development	DOE-Livermore National Laboratory
47	Superconducting Magnetic Energy Storage System	DOO-Strategic Defense Initiatives Organization	68	Software Permits Different Computers to "Talk" to Each Other	DOE-Livermore National Laboratory
48	Geographic Information Systems	DOE-U.S. Geological Survey	69	SARISA (Surface Analysis by Resonance Ionization of Sputtered Atoms)	DOE-Argonne National Laboratory
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52	KDP Crystal Industry Leaps Forward	DOE-Livermore National Laboratory	71	Improved Monitoring of Groundwater	DOE-Pacific Northwest Laboratory
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74	Safer Method of Diagnosing Heart Defects	DOE-Oak Ridge National Laboratory	92	An Analysis of a Cogeneration System at Texas A&M University	DOO-Naval Civil Engineering Laboratory
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86	Calibration System Makes Better Solar Measurements	DOE-Solar Energy Research Institute	98	Negative-Ion Source Technology	DOE-Lawrence Berkeley Laboratory
87	NASA Saves Candy	NASA-Kennedy Space Center	99	Human Mammary Epithelial Cells	DOE-Lawrence Berkeley Laboratory
88	New Industrial Wastewater Treatment System Reaps Savings	DOO-Air Force Engineering and Services Center	99	Bioglass Application for Helping Diabetics	DOO-Strategic Defense Initiatives Organization
89	Measurement Technology for Radiation Processing	DOC-National Bureau of Standards	100	Safer Methods for Food Preservation	DOO-Strategic Defense Initiatives Organization
90	Surface Science Enhances Product Quality	DOE-Pacific Northwest Laboratory	101	Neutral Particle Beam (NPB) Medical and Industrial Spinoffs	DOO-Strategic Defense Initiatives Organization
91	Wind Energy Siting	DOE-Pacific Northwest Laboratory	101	New Instrumentation for Entomologists	DOO-Strategic Defense Initiatives Organization
			101	Highway Bridge Safety Analysis	DOO-Strategic Defense Initiatives Organization

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20	Glass/Ceramics: Key to Advancing Commercial Glass-to-Metal Seal Technology	DOE-Monsanto Research Corporation - MOUND
21	ECCAD-State of the Art Electrical Circuit Characterization	DOE-Idaho National Engineering Laboratory
22	Ames Laboratory Technology is the Basis for a New Start-up Company	DOE-Ames Laboratory
23	Terfenol-D Technology Transferred Using An Innovative Mechanism	DOE-Ames Laboratory
24	Saving Steel Dollars: Ultrasonic Flaw Detector for Hot Steel	DOC-National Bureau of Standards DOE-Argonne National Laboratory
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26	Aircraft De-Icing Detection Technology	DOT-Federal Aviation Administration Technical Center
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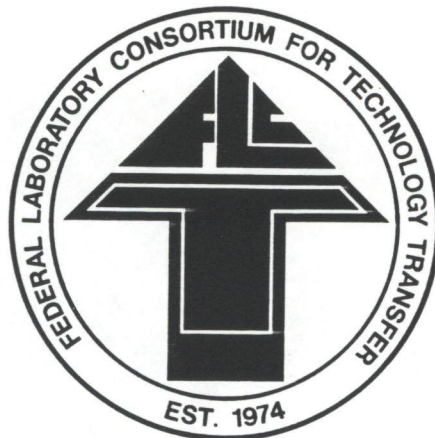
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30	Consortium Brings Agreement on CO ₂ Measurement	DOC-National Bureau of Standards
31	Neutrons Used to Measure Micrometer Thick Surface Layers	DOC-National Bureau of Standards
32	High Temperature Superconductivity Device Developments	DOC-National Bureau of Standards
33	Advanced Study Program in High-Temperature Superconductivity Theory	DOE-Los Alamos National Laboratory
34	Flow Cytometry Instrumentation: Future Market Changes	DOE-Los Alamos National Laboratory
35	Laser Angioplasty-Biomedical Company With Product Development Problems	DOE-Los Alamos National Laboratory
36	Biodegradable Plastics from Corn	DOA-Agricultural Research Service
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36	Thin Film Electroluminescent Color Displays	DOE-Army Electronics Technology and Devices Laboratory
37	Loma Linda-Fermilab Project to Build a Proton Accelerator for Medicine	DOE-Fermil National Accelerator Laboratory
38	Compound Separation	NASA-Jet Propulsion Laboratory
39	GeneticScan - Chromosome Karyotyping System, Chromosome Analysis System, and Systems for Cytogenetic Imaging	NASA-Jet Propulsion Laboratory
40	Well Drilling Stress Measurement	DOE-Sandia National Laboratories

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48	The Eddy-Current Superconductor Characterization Technique
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109	Test Bed for a Future Fusion Reactor	DOE-Lawrence Livermore National Laboratory	128	New Instruments Measures Soil Salinity	DOE-Agricultural Research Service
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111	Ion Implantation Studies at the Superhllac	DOE-Lawrence Berkeley Lab	129	Soil Stabilization for Roadways and Airfields	DOE-Air Force Engineering and Services Center
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143	Technical Volunteers/Intergovernmental Personnel Act Assignments	DOO-Naval Underwater System Center
144	Hot-Air Solder Leveler	DOE-Sandia National Laboratories
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THE FLC



REPORT TO THE CONGRESS AND THE FEDERAL AGENCIES FISCAL YEAR 1990

**Activities and Accomplishments of the
Federal Laboratory Consortium for Technology Transfer
Pursuant to the Federal Technology Transfer Act of 1986**

December 1990

Report submitted by:

**Dr. Loren C. Schmid
Chairman**

"CORRESPONDENCE TRACKING"

TYPE: INFORMATION

DOCUMENT NUMBER: 9120444

FROM: WINCE-SMITH, DEBORAH L.

TO: DR. BROMLEY

DATE OF
CORRESPONDENCE: 02/15/91

SUBJECT: REAFFIRMING RECOMMENDATIONS MADE DURING THE
DISCUSSION OF TECHNOLOGY TRANSFER AT THE MEETING OF
THE BOARD OF GOVERNORS OF THE CSMT.

ASSIGNED TO:

ACTION REQUIRED:

SENDER'S DUE DATE:

OSTP DUE DATE:

DATE COMPLETED:

COPIES TO: D. Allan Bromley
Dr. Phillips

WHITE HOUSE TRACKING #:

CONTACT PERSON:

REMARKS:

DATE RECEIVED: 02/19/91

FILE: INDUSTRIAL
TECHNOLOGY - Tech. Transfer



**Assistant Secretary
for Technology Policy**

DATE: 2/15/91

F

91 F

FROM THE DESK OF:

Deborah L. Wince-Smith

TO: Allan Bromley

- ☐ Per our conversation.
- ☒ For your information.
- ☐ For appropriate action.
- ☐ For draft of an appropriate reply for my signature.
- ☐ Please answer directly.
- ☐ Let's discuss.
- ☐ Please return with your comments.



9120444
UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Technology Policy
Washington, D.C. 20230

RECEIVED

FEB 19 11:27

OFFICE OF THE
DIRECTOR

FEB 15 1991

Dr. Edward C. Stone
Director, Jet Propulsion Laboratory
California Institute of Technology
4800 Oak Grove Drive
Pasadena, CA 91109

Dear Dr. Stone:

Thank you for the opportunity to participate in the discussion of technology transfer at the January 10 meeting of the Board of Governors of the Center for Space and Micro-electronics Technology (CSMT). I thought it was an extremely productive session and hope there will be additional opportunities for collaboration between our organizations.

I am sending some materials to Karl Kukkonen that I think will be useful to the Jet Propulsion Laboratory (JPL), CSMT and the Board. The package includes information on the National Institute of Standards and Technology's (NIST) Industrial Visitor's program, the Commerce Department's reports on "Emerging Technologies" and "Technology Transfer" and some materials concerning the Commerce Department's Advanced Technology Program.

I would also like to reaffirm some of the recommendations I made at the meeting. The first, and most basic, is that technology commercialization must be made an important item on the Director's agenda and a central part of the laboratory's mission. One way to achieve this is to set up the technology commercialization function as one that reports to the director. There should also be an understanding within the organization that the commercialization goal is a broad one and extends far beyond the development of commercial space applications for technologies emanating from the JPL laboratories.

At the same time, there must be some decentralization of the technology commercialization process to minimize organizational obstacles. This might be accomplished by setting up a Technology Commercialization Council that is chaired by the head of your technology commercialization staff, reports to the Director and is composed of representatives from each of the constituent R&D groups within the laboratory.

Equally important, incentives must be provided to individual scientists to make the commercialization process work. Part of the challenge here is to find a suitable balance between the traditional emphasis on the publication of research results and the newly important commercialization effort. One way to convey this message to your scientists is through a technology commercialization award program that recognizes and rewards exemplary individual efforts to achieve commercialization. Finally, it is essential that technology commercialization not only be a general organizational goal but that it be incorporated into the personnel system as one means of measuring your employees' performances.

Last, but not least, there must be a continuing effort to involve industry in the laboratory's research and development activities. If this involvement does not occur until the work is completed, it is too late. The objective should be a kind of "concurrent" R&D process in which industry is involved from beginning to end. I think the NIST Industrial Visitors program might provide one model for this type of involvement. CSMT appeared to be interested in implementing this idea and I would like to suggest that JPL might pursue it as well.

I suggest that consideration also be given to the formation of an industry advisory group for both JPL and CSMT. The membership of any such groups should be broader than just the space and aerospace industries and cover all possible areas in which the commercialization process might prove fruitful. One final suggestion is that the laboratories consider holding periodic open houses for industry, designed to acquaint them with ongoing research and development activities. At the outset, these events might focus on small and medium-sized businesses in California.

Sincerely,

A handwritten signature in cursive script, appearing to read "Deborah L. Wince-Smith".

Deborah L. Wince-Smith

cc: Dr. Thomas Everhart
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