[COMMITTEE PRINT]

NOVEMBER 17, 1981

Note: Changes made in the introduced bill are indicated as follows: Matter to be deleted is ~~stricken~~ through, matter inserted by unanimous consent is printed in *italic* type, and matter inserted by amendment is printed in **boldface.**

97TH CONGRESS
1ST SESSION

H. R. 4564

To establish a uniform Federal system for management, protection, and utilization of the results of federally sponsored scientific and technological research and development; and to further the public interest of the United States domestically and abroad, and for other related purposes.

IN THE HOUSE OF REPRESENTATIVES

SEPTEMBER 23, 1981

Mr. ERTEL (for himself, Mr. FUQUA, Mr. WALGREN, Mr. BROWN of California, Mr. HOLLENBECK, Mr. LAFALCE, Mr. AUCOIN, Mr. MURPHY, Mrs. HECKLER, Mr. HUGHES, and Mr. WINN) introduced the following bill; which was referred jointly to the Committees on the Judiciary and Science and Technology

---

A BILL

To establish a uniform Federal system for management, protection, and utilization of the results of federally sponsored scientific and technological research and development; and to further the public interest of the United States domestically and abroad, and for other related purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Uniform Federal Research and Development Utilization Act of 1981".

TITLE I—POLICY

Sec. 101. Findings.
Sec. 102. Declaration of purpose.

TITLE II—FUNCTIONS OF THE OFFICE OF SCIENCE AND TECHNOLOGY POLICY AND THE FEDERAL COORDINATING COUNCIL FOR SCIENCE, ENGINEERING, AND TECHNOLOGY

Sec. 201. Federal Coordinating Council for Science, Engineering, and Technology.

TITLE III—ALLOCATION OF PROPERTY RIGHTS IN INVENTIONS RESULTING FROM FEDERALLY SPONSORED RESEARCH AND DEVELOPMENT

Sec. 301. Ownership and rights of the Government.
Sec. 302. Rights of the contractor.
Sec. 303. Waiver.
Sec. 304. March-in-rights.
Sec. 305. General provisions.
Sec. 306. Judicial review.
Sec. 307. Contractor's payments to the Government.
Sec. 308. Background rights.

TITLE IV—DOMESTIC AND FOREIGN PROTECTION AND LICENSING OF FEDERALLY OWNED INVENTIONS

Sec. 401. Authority of Federal agencies.
Sec. 402. Authority of the Secretary of Commerce in cooperation with other Federal agencies.
Sec. 403. Authority of *the* Administrator of General Services.
Sec. 404. Grants of an exclusive or partially exclusive license.

TITLE V—MISCELLANEOUS

CHAPTER 1—DEFINITIONS; RELATIONSHIP TO OTHER LAWS

Sec. 511. Definitions.
Sec. 512. Relationship to other laws.

CHAPTER 2—AMENDMENTS TO OTHER ACTS

Sec. 521. Identified Acts amended.

CHAPTER 3—EFFECTIVE DATE PROVISION

Sec. 531. Effective date.

TITLE I—POLICY

FINDINGS

SEC. 101. The Congress, recognizing the profound impact of science and technology on society and the interrelations of scientific, technological, economic, social, political, and institutional factors, hereby finds that—

(1) inventions in scientific and technological fields resulting from work performed under Federal research and development programs constitute a valuable national resource;

(2) Federal policy on the allocations of rights to inventions resulting from federally sponsored research and development should stimulate inventors, meet the needs of the Federal Government, and serve the public interest; and

(3) the public interest would be better served if greater efforts were made to promote the commercial use of new technology resulting from federally sponsored research and development, both in the United States and foreign countries, as appropriate.

DECLARATION OF PURPOSE

SEC. 102. It is the purpose of this Act to—

(1) establish a uniform Federal system for the management and use of the results of federally spon-

sored scientific and technological research and development;

(2) provide for uniform implementation of the provisions of this Act, and to make a continuing effort to monitor such implementation;

(3) allocate rights to inventions by contractors which result from federally sponsored research and development so as to—

(A) encourage the participation of the most qualified and competent contractors,

(B) foster competition,

(C) reduce the administrative burdens, both for the Federal agencies and its contractors, and

(D) protect the public investment in research and development by promoting the widespread utilization of inventions;

(4) provide for a domestic and foreign protection and licensing program to obtain commercial utilization of federally owned inventions, with the objective of strengthening the Nation's economy and expanding its domestic and foreign markets; and

(5) amend or repeal other Acts and Executive orders regarding the allocation of rights to inventions which result from federally sponsored research and development and the licensing of federally owned patents.

TITLE II—FUNCTIONS OF THE OFFICE OF SCIENCE AND TECHNOLOGY POLICY AND THE FEDERAL COORDINATING COUNCIL FOR SCIENCE, ENGINEERING, AND TECHNOLOGY

FEDERAL COORDINATING COUNCIL FOR SCIENCE, ENGINEERING, AND TECHNOLOGY

SEC. 201. (a) The Federal Coordinating Council for Science, Engineering, and Technology (established by section 401 of the National Science and Technology Policy, Organization, and Priorities Act of 1976 (42 U.S.C. 6651)) (hereinafter in this Act referred to as the "Council") shall make recommendations to the Director of the Office of Science and Technology Policy (hereinafter in this title referred to as the "Director"), with regard to—

(1) uniform and effective planning and administration of Federal programs pertaining to inventions, patents, trademarks, copyrights, rights in technical data, and matters connected therewith;

(2) uniform policies, regulations, guidelines, and practices to carry out the provisions of this Act and other Federal Government objectives in the field of intellectual property; and

(3) uniformity and effectiveness of interpretation and implementation by individual Federal agencies of

the provisions of this Act and other related Federal Government policies, regulations, and practices.

(b) Recommendations regarding matters set forth in subsection (a) which are made by the Council and adopted by the Director shall be transmitted to Federal agencies through appropriate channels.

(c) In order to carry out the responsibilities set forth in subsections (a) and (b), the Council is authorized to—

(1) acquire data and reports from Federal agencies on the interpretation and implementation of this Act and related policies, regulations, and practices;

(2) review on its own initiative, or upon request by a Federal agency, Federal agency implementation of the provisions of this Act;

(3) analyze, on a continuing basis, data acquired by the Council;

(4) consider problems and developments in the fields of inventions, patents, trademarks, copyrights, rights in technical data, and matters connected therewith and the impact thereof on Federal Government policy or uniform accommodation or implementation by Federal agencies; and

(5) publish annually a report on Council efforts, findings, and recommendations made under this section.

TITLE III—ALLOCATION OF PROPERTY RIGHTS IN INVENTIONS RESULTING FROM FEDERALLY SPONSORED RESEARCH AND DEVELOPMENT

OWNERSHIP AND RIGHTS OF THE GOVERNMENT

SEC. 301. (a) Each Federal agency shall acquire on behalf of the Federal Government, at the time of entering into a contract, title to any invention made under the contract of a Federal agency if the agency determines that—

(1) the services of the contractor are for the operation of Federal research and development centers, including Government-owned research or production facilities;

(2) the restriction or elimination of the right to retain title to any subject invention is necessary to protect the national security nature of such activities;

(3) because of exceptional circumstances, acquisition of title by the Government is necessary to assure the adequate protection of the public health, safety, or welfare; ~~or~~

(4) the principal purpose of the contract is to develop or improve products, processes, or methods which will be required for use by Government regulations: ~~*Provided, however,* That the Federal agency may subsequently waive all or any part of the~~

~~rights of the Federal Government, under this section to such invention in conformity with the provisions of section 303.;~~

(5) the contract is not to be performed in the United States, its possessions, or Puerto Rico;

(6) the contractor is a business entity that does not have a place of business located in the United States, except that this paragraph shall not require an agency to take an action in violation of existing treaties or laws of the United States; or

(7) the contractor is or is subject to the control of a foreign government, except that this paragraph shall not require an agency to take an action in violation of existing treaties or laws of the United States.

The Federal agency may subsequently waive all or any part of the rights of the Federal Government under this section to such invention in conformity with the provisions of section 303.

(b) In other situations not covered by subsection (a) each Federal agency shall acquire on behalf of the Federal Government, at the time of contracting—

(1) an agreement that, if the contractor elects not to file a patent application on a subject invention in

any country, title to such an invention shall be assigned to the Federal Government, subject to the rights retained by the contractor under section 302; and

(2) an agreement that, if the contractor elects to file a patent application in accordance with section 302—

(A) the Federal agency shall have the right to require periodic written reports at reasonable intervals and, when specifically requested by such agency, reports on the ~~commercial use~~ *commercialization* or other form of utilization by the public that is being made or is intended to be made of any subject invention: *Provided,* That any such information shall be treated by the Federal agency as commercial or financial information obtained from a person and privileged or confidential and not subject to disclosure under the Freedom of Information Act (5 U.S.C. 552);

(B) the Government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced any subject invention throughout the world by or on behalf of the Federal Government, and may, if provided in such agreement, have additional rights to sublicense

any State or domestic local government or to sublicense any foreign government pursuant to foreign policy considerations, or any existing or future treaty or agreement, when it is determined to be in the national interest to acquire such additional rights.

RIGHTS OF THE CONTRACTOR

SEC. 302. (a) Whenever a contractor enters into a contract with a Federal agency other than in those circumstances identified in section 301*(a)*, the contractor ~~or inventor~~ shall have the option of retaining title to any invention made under the contract. Such rights shall be subject to the limitations set forth in section 304 and the provisions of ~~section~~ *sections 301(b)(2) and* 305. Such option shall be exercised by notifying the Government at the time of disclosure of the invention or within such time thereafter as may be provided in the contract. The Government shall obtain title to any invention for which this option is not exercised.

(b) When the Government obtains title to an invention under section 301 *or 302(a)*, the contractor shall retain a nonexclusive, royalty-free license which shall be revocable only to the extent necessary for the Government to grant an exclusive license.

(c) If a contractor does not exercise its option to retain title the Federal agency may consider and, after consultation

with the contractor, grant requests for retention of rights by the inventor, subject to the provisions of this Act.

WAIVER

SEC. 303. A Federal agency may at any time waive all or any part of the rights of the United States under ~~this title~~ *section 301(a)* to any invention or class of inventions made or which may be made by any person or class of persons under the contract of the agency if the agency determines that the condition justifying acquisition of title by the Government under section 301 no longer exists or the interests of the United States and the general public will be best served thereby. The agency shall maintain a record, which shall be made public and periodically updated, of determinations made under this section. In making such determinations, the agency shall consider the following objectives:

(1) encouraging the wide availability to the public of the benefits of the experimental, developmental, or research programs in the shortest practicable time;

(2) promoting the commercial utilization of such inventions;

(3) encouraging participation by private persons in the Government-sponsored experimental, developmental, or research programs; and

(4) ~~fostering competition and preventing undue market concentration or the creation or maintenance of~~

~~other situations inconsistent with the antitrust laws.~~ **fostering competition and preventing the creation or maintenance of situations inconsistent with the antitrust laws.**

MARCH-IN-RIGHTS

SEC. 304. (a) Where a contractor *or inventor* has elected to retain title to an invention under section 302 or 303, the Federal agency shall have the right, pursuant to regulations and subject to the provisions of subsection (b), to grant, or require the contractor to grant, a nonexclusive, partially exclusive, or exclusive license to a responsible applicant or applicants, upon terms reasonable under the circumstances, if the agency determines such action is necessary—

(1) because the contractor has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention;

(2) to alleviate serious health, safety, or welfare needs which are not reasonably satisfied by the contractor or its licensees or otherwise required for the protection of national security;

(3) to meet requirements for public use specified by Federal regulation which are not reasonably satisfied by the contractor or its licensees; or

(4) because the actions of the contractor beyond the exercise of the exclusive rights in the invention ~~have tended substantially to lessen competition or to result in undue market concentration in any section of the United States in any line of commerce to which the technology relates, or to create and maintain other situations inconsistent with the antitrust laws.~~ **have created or maintained a situation inconsistent with the antitrust laws.**

(b) The determinations required under subsection (a) shall be made upon the basis of such information as may be presented by the contractor, an interested party, or any Federal agency. Such determination shall be made after public notice and opportunity for hearing if such a hearing is requested by any interested person justifying such a hearing.

GENERAL PROVISIONS

SEC. 305. (a) The allocation of property rights in subject inventions shall be determined by uniform regulations, issued by the Administrator of General Services and the Secretary of Defense, employing a single patent rights clause in all instances except as may be provided in such regulations~~, subject to the minimum rights acquired under section 301(b)(2), or as provided in paragraph (5)~~. Such a patent rights clause shall include the provisions required by sections

301, 302, and 304, and each contract entered into by the Federal agency shall include provisions to—

(1) require a prompt disclosure by the contractor of each subject invention which is or may be patentable under the laws of the United States;

~~(2) require an election whether the contractor intends to file a patent application on the subject invention;~~

(2) require an election, at the time of disclosure or within a reasonable time thereafter, whether the contractor intends to file a patent application on the subject invention in the United States or other countries;

~~(3) require, if the contractor elects to file, a declaration of the contractor's intent to commercialize or otherwise achieve the widespread utilization of the invention by the public;~~

(3) require, where the contractor elects to retain title—

(A) the filing of a patent application within a reasonable period of time; and

(B) the filing of a declaration of the contractor's intent to commercialize or otherwise achieve the utilization of the invention by the public;

(4) require an obligation on the part of the contractor, in the event a United States patent application

is filed by or on its behalf or by any assignee of the contractor, to include within the specification of such application, and any patent issuing thereon, a statement specifying that the invention was made with Government support and that the Government has certain rights in the invention; ~~and~~

(5) permit deviation to the minimum rights acquired under sections 301(b)(2) and 304(a) on a class basis in—

(A) contracts involving cosponsored, cost sharing, or joint venture research when the contractor is required to make a substantial contribution of funds, facilities, or equipment to the work performed under the contract; and

(B) special contracting situations such as Federal price or purchase supports and Federal loan or loan ~~guarantees.~~ *guarantees; and*

(6) require that a transfer by the contractor of the rights in any subject invention will be subject to the rights of the Federal Government provided for in sections 301, 303, 304, and 307.

No deviation under this subsection shall waive, in whole or in part, the minimum rights to be secured for the Federal Government set forth in section 304(a)(4). The Federal Government shall withhold publication or release to the public of

information disclosing any invention subject to the uniform regulations issued under this subsection for a reasonable time in order for a United States or foreign patent application to be filed.

(b) When it is determined that the right to require licensing or the right of the Federal agency to license should be exercised pursuant to section 304(a), the Federal agency may specify terms and conditions, including royalties to be charged, if any, and the duration and field of use of the license, if appropriate *consistent with the provisions of title IV of this Act.* Agency determinations as to the rights to inventions under this title shall be made in an expeditious manner without unnecessary delay.

JUDICIAL REVIEW

SEC. 306. Any person adversely affected by a Federal agency determination made under ~~section 304(a) or 305(b)~~ *this Act* may, at any time within sixty days after the determination is issued, file a petition to the United States ~~Court of Claims~~ *Court of Customs and Patent Appeals* which shall have jurisdiction to determine the matter de novo and to affirm, reverse, or modify as appropriate, the determination of the Federal agency.

CONTRACTOR'S PAYMENTS TO THE GOVERNMENT

SEC. 307. (a) The Administrator of the General Services Administration and the Secretary of Defense shall issue

regulations which will provide payment to the Government for Federal funding of research and development activities through the sharing of royalties or revenues or both with the contractor. Such regulations shall provide, to the extent appropriate, a standard contractual clause to be included in all Federal research and development contracts.

(b) Such regulations may allow the agency to waive all or part of the payment set forth in subsection (a) above at the time of contracting or at the request of the contractor where the agency determines that—

(1) the probable administrative costs are likely to be greater than the expected amount of payment; or

(2) the Federal Government's contribution to the technology as licensed or utilized is insubstantial compared with private investment made or to be made in the technology; or

(3) the contractor is a small business, educational institution, or nonprofit organization; or

(4) the total Government funding of the technology with the contractor is less than $500,000; or

(5) the payment would place the contractor at a competitive disadvantage or would stifle commercial utilization of the technology; or

(6) it is otherwise in the best interests of the Government and the general public.

(c) Such regulations shall be promulgated within twelve months of enactment of this section, but will not take effect for a period of sixty days subject to disapproval *by resolution* by either House of Congress. ~~Such disapproval resolution shall be considered a preferential resolution and may be brought up without committee approval.~~

(d) Until such regulations become effective, each agency shall obtain payment on behalf of the Federal Government for its research and development activities on a contract-by-contract basis in a manner consistent with the provisions of subsection (b) above.

BACKGROUND RIGHTS

SEC. 308. Nothing contained in this Act shall be construed to deprive the owner of any background patent or to such rights as the owner may have thereunder.

TITLE IV—DOMESTIC AND FOREIGN PROTECTION AND LICENSING OF FEDERALLY OWNED INVENTIONS

AUTHORITY OF FEDERAL AGENCIES

SEC. 401. Federal agencies are authorized to—

(1) apply for, obtain, and maintain patents or other forms of protection in the United States and in foreign countries on inventions in which the Federal Government owns a right, title, or interest;

(2) promote the licensing of inventions covered by federally owned patent applications, patents, or other forms of protection obtained with the objective of maximizing utilization by the public of the inventions covered thereby;

(3) grant nonexclusive, exclusive, or partially exclusive licenses under federally owned patent applications, patents, or other forms of protection obtained, royalty free or for royalties or other consideration, and on such terms and conditions, including the grant to the licensee of the right of enforcement pursuant to the provisions of chapter 28 of title 35, United States Code, as deemed appropriate in the public interest;

(4) make market surveys and other investigations for determining the potential of inventions for domestic and foreign licensing and other forms of utilization; acquire technical information and engage in negotiations and other activities for promoting the licensing and for the purpose of enhancing their marketability and public utilization;

(5) withhold publication or release to the public information disclosing any invention in which the Federal Government owns or may own a right, title, or interest for a reasonable time in order for a patent application to be filed;

(6) undertake the above and all other suitable and necessary steps to protect and administer rights to inventions on behalf of the Federal Government either directly or through contract;

(7) transfer custody and administration, in whole or in part, to the Department of Commerce or to other Federal agencies, of the right, title, or interest in any invention for the purpose of administering the authorities set forth in paragraphs (1) through (4), without regard to the provisions of the Federal Property and Administrative Services Act of 1949 (40 U.S.C. 471); and

(8) designate the Department of Commerce as recipient of any or all funds received from fees, royalties, or other management of federally owned inventions authorized under this Act.

AUTHORITY OF THE SECRETARY OF COMMERCE IN COOPERATION WITH OTHER FEDERAL AGENCIES

SEC. 402. The Secretary of Commerce is authorized in cooperation with other Federal agencies to—

(1) coordinate a program for assisting all Federal agencies in carrying out the authority set forth in section 401;

(2) publish notification of all federally owned inventions that are available for licensing;

(3) evaluate inventions referred by Federal agencies, and patent applications filed thereon, in order to identify those inventions with the greatest commercial potential and to insure promotion and utilization by the public of inventions so identified;

(4) assist the Federal agencies in seeking and maintaining protection on inventions in the United States and in foreign countries, including the payment of fees and costs connected therewith;

(5) accept custody and administration, in whole or in part, of the right, title, and interest in any invention for the purposes set forth in section 401 (1) through (4), with the approval of the Federal agency concerned without regard to the provisions of the Federal Property and Administrative Service Act of 1949 (40 U.S.C. 471);

(6) receive funds from fees, royalties, or other management of federally owned inventions authorized under this Act, but such funds shall be used only for the purpose of this Act; and

(7) undertake these and such other functions either directly or through such contracts as are necessary and appropriate to accomplish the purposes of this title.

AUTHORITY OF THE ADMINISTRATOR OF GENERAL SERVICES

SEC. 403. The Administrator of General Services is authorized to promulgate regulations specifying the terms and conditions upon which any federally owned invention may be licensed on a nonexclusive, partially exclusive, or exclusive basis.

GRANTS OF AN EXCLUSIVE OR PARTIALLY EXCLUSIVE LICENSE

SEC. 404. (a) Federal agencies may grant exclusive or partially exclusive licenses in any invention covered by a federally owned domestic patent or patent application only if, after public notice and opportunity for filing written objections, it is determined that—

(1) the interests of the Federal Government and the public will best be served by the proposed license, in view of the applicant's intentions, plans, and ability to bring the invention to practical application or otherwise promote the invention's utilization by the public;

(2) the desired practical application has not been achieved, or is not likely expeditiously to be achieved, under any nonexclusive license which has been granted, or which may be granted, on the invention;

(3) exclusive or partially exclusive licensing is a reasonable and necessary incentive to call forth the in-

vestment of risk capital and expenditures to bring the invention to practical application or otherwise promote the invention's utilization by the public; and

(4) the proposed terms and scope of exclusivity are not greater than reasonably necessary to provide the incentive for bringing the invention to practical application or otherwise promote the invention's utilization by the public;

except that a Federal agency shall not grant such exclusive or partially exclusive license if it determines that the grant of ~~such license will tend substantially to lessen competition or result in undue concentration in any section of the country in any line of commerce to which the technology to be licensed relates, or to create or maintain other situations inconsistent with the antitrust laws.~~ **such license would, apart from the exercise of the exclusive rights in the invention, create or maintain a situation inconsistent with the antitrust laws.**

(b) After consideration of whether the interests of the Federal Government or United States industry in foreign commerce will be enhanced, Federal agencies may grant exclusive or partially exclusive licenses in any invention covered by a foreign patent application or patent after public notice and opportunity for filing written objections except that, a Federal agency shall not grant such exclusive or par-

tially exclusive license if it determines that the grant of such ~~license will tend substantially to lessen competition or result in undue concentration in any section of the country in any line of commerce to which the technology to be licensed relates, or to create or maintain other situations inconsistent with the antitrust laws.~~ **license would, apart from the exercise of the exclusive rights in the invention, create or maintain a situation inconsistent with the antitrust laws.**

(c) The Federal agency shall maintain a record of determinations to grant exclusive or partially exclusive licenses.

(d) Any grant of an exclusive or partially exclusive license shall contain such terms and conditions as the Federal agency may determine to be appropriate for the protection of the interests of the Federal Government and the public, including provisions for the following:

(1) periodic written reports at reasonable intervals including, when specifically requested by the Federal agency, the extent of the commercial or other use by the public that is being made or is intended to be made of the invention;

(2) a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for the Federal Government the licensed invention throughout the world by or on behalf of the Federal Government

(including any Federal agency), and the additional right to sublicense any State or domestic local government or to sublicense any foreign government pursuant to foreign policy considerations, or any existing or future treaty or agreement if the Federal agency determines it would be in the national interest to retain such additional rights;

(3) the right of the Federal agency to terminate such license in whole or in part unless the licensee demonstrates to the satisfaction of the Federal agency that the licensee has taken effective steps, or within a reasonable time is expected to take such steps, to accomplish substantial commercial or other use of the invention by the public; and

(4) the right of the Federal agency, commmencing three years after the grant of a license, to require the licensee to grant a nonexclusive or partially exclusive license to a responsible applicant or applicants, upon terms reasonable under the circumstances, and in appropriate circumstances to terminate the license in whole or in part, after public notice and opportunity for a hearing, upon a petition by an interested person justifying such hearing, if the Federal agency determines, upon review of such material as it deems relevant, and after the licensee, or other interested person, has had

the opportunity to provide such relevant and material information as the Federal agency may require, that ~~such license has tended substantially to lessen competition or to result in undue concentration in any section of the country in any line of commerce to which the technology relates, or to create or maintain other situations inconsistent with the antitrust laws.~~ **such license has, apart from the exercise of the exclusive rights in the invention, created or maintained a situation inconsistent with the antitrust laws.**

TITLE V—MISCELLANEOUS

CHAPTER 1—DEFINITIONS; RELATIONSHIP TO OTHER LAWS

DEFINITIONS

SEC. 511. As used in this Act—

(1) The term "Federal agency" means an "executive agency" as defined by section 105 of title 5, United States Code, and the military departments defined by section 102 of title 5, United States Code.

(2) The term "contract" means any contract, grant, or *cooperative* agreement entered into between any Federal agency and any person for the performance of experimental, developmental, or research work ~~substantially~~ funded by the Federal Government. Such

term includes any assignment, substitution of parties, or subcontract of any type entered into for the performance of experimental, developmental, or research work under a contract.

(3) The term "contractor" means any person (as defined in section 1 of title 1, United States Code) that is a party to the contract.

(4) The term "invention" means any invention or discovery and includes any art, method, process, machine, manufacture, design, or composition of matter, or any new and useful improvement thereof, or any variety of plant, which is or may be patentable or otherwise protectable under the laws of the United States.

(5) The term "subject invention" means any invention or discovery of the contractor conceived or first actually reduced to practice in the course of or under a contract.

(6) The term "practical application" means to manufacture in the case of a composition or product, to practice in the case of a process, or to operate in the case of a machine or system, and, in each case, under such conditions as to establish that the invention is being worked and that its benefits are available to the public either on reasonable terms or through reasonable licensing arrangements.

(7) The term "person" means any individual, partnership, corporation, association, institution, or other entity.

(8) The term "made", when used in relation to any invention, means the conception or first actual reduction to practice of such invention.

~~(9) The term "antitrust law" means—~~

~~(A) the Act entitled "An Act to protect trade and commerce against unlawful restraints and monopolies", approved July 2, 1890 (15 U.S.C. 1 et seq.), as amended;~~

~~(B) the Act entitled "An Act to supplement existing laws against unlawful restraints and monopolies, and for other purposes", approved October 15, 1914 (15 U.S.C. 12 et seq.), as amended;~~

~~(C) the Federal Trade Commission Act (15 U.S.C. 41 et seq.), as amended;~~

~~(D) sections 73 and 74 of the Act entitled "An Act to reduce taxation to provide revenue for the Federal Government, and for other purposes", approved August 27, 1894 (15 U.S.C. 8 and 9), as amended; and~~

~~(E) the Act of June 19, 1936 (15 U.S.C. 13, 13a, 13b, and 21a).~~

(9) The term "antitrust law" means the laws included within the definition of the term "antitrust laws" in section 1 of the Clayton Act (15 U.S.C. 12), as amended.

RELATIONSHIP TO OTHER LAWS

SEC. 512. Nothing in this Act shall be deemed to convey to any individual, corporation, or other business organization immunity from civil or criminal liability, or to create defenses to actions, under any antitrust law.

CHAPTER 2—AMENDMENTS TO OTHER ACTS

IDENTIFIED ACTS AMENDED

SEC. 521. The following Acts are hereby amended as follows:

(1) Section 205(a) of the Act of August 14, 1946 (7 U.S.C. 1624(a); 60 Stat. 1090), is amended by striking out the last sentence thereof.

(2) Section 501(c) of the Federal Coal Mine Health and Safety Act of 1969 (30 U.S.C. 951(c); 83 Stat. 742) is amended by striking out the last sentence thereof.

(3) Section 106(c) of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1395(c); 80 Stat. 721) is repealed.

(4) Section 12 of the National Science Foundation Act of 1950 (42 U.S.C. 1871(a); 82 Stat. 360) is repealed.

(5) Section 152 of the Atomic Energy Act of 1954 (42 U.S.C. 2182; 68 Stat. 943) is repealed.

~~(6) The National Aeronautics and Space Act of 1958 (42 U.S.C. 2451 et seq.; 72 Stat. 426) is amended—~~

~~(A) by repealing section 305 thereof (42 U.S.C. 2457): *Provided, however,* That subsections (c), (d), and (e) of such section shall continue to be effective with respect to any application for patents in which the written statement referred to in subsection (c) of such section has been filed or requested to be filed by the Commissioner of Patents and Trademarks prior to the effective date of this Act;~~

~~(B) by inserting the following new section 305:~~

~~"SEC. 305. INVENTIONS AND CONTRIBUTIONS BOARD.—Each proposal for any waiver of patent rights held by the Administrator shall be referred to an Inventions and Contributions Board which shall be established by the Administrator within the Administration. Such Board shall accord to each interested party an opportunity for a hearing,~~

and shall transmit to the Administrator its findings of fact with respect to such proposal and its recommendations for action to be taken with respect thereto.";

(C) by repealing section 306 thereof (42 U.S.C. 2458);

(D) by inserting at the end of section 203(c) thereof (42 U.S.C. 2473(c)) the following new paragraph:

"(14) to provide effective contractual provisions for the reporting of the results of the activities of the Administration, including full and complete technical reporting of any innovation made in the course of or under any contract of the Administration.";

(E) by inserting at the end of section 203 thereof (42 U.S.C. 2478) the following new subsection:

"(d) For the purposes of chapter 17 of title 35 of the United States Code the Administration shall be considered a defense agency of the United States."; and

(F) by striking out the following in section 203(c)(3) thereof (42 U.S.C. 2473(c)(3)): "(including patents and rights thereunder)".

(6) The National Aeronautics and Space Act of 1958 (72 Stat. 426) is amended—

(A) by striking out section 305 thereof (42 U.S.C. 2457), except that subsections (c), (d), and (e) of such section shall continue to be effective with respect to any application for patents in which the written statement referred to in subsection (c) of such section has been filed or requested to be filed by the Commissioner of Patents and Trademarks prior to the effective date of this Act;

(B) by striking out, in section 306(a) thereof (42 U.S.C. 2458(a)), "(as defined by section 305)", and by striking out "the Inventions and Contributions Board, established under section 305 of this Act" and inserting in lieu thereof "an Inventions and Contributions Board which shall be established by the Administrator within the Administration";

(C) by striking out the period at the end of paragraph (13) of section 203(c) thereof (42 U.S.C. 2473(c)) and inserting in lieu thereof a semicolon and by inserting after such paragraph the following:

"(14) to provide effective contractual provisions for the reporting of the results of the activities of the Administration, including full and complete technical reporting of any innovation made in the course of or under any contract of the Administration.";

(D) by adding at the end of such section 203 the following new subsection:

"(d) For purposes of chapter 17 of title 35 of the United States Code, the Administration shall be considered a defense agency of the United States."; and

(E) by striking out "(including patents and rights thereunder)" in such section 203.

(7) Section 6 of the Coal Research and Development Act of July 7, 1960 (30 U.S.C. 666; 74 Stat. 337), is repealed.

(8) Section 4 of the Helium Act Amendments of 1960 (50 U.S.C. 167b; 74 Stat. 920) is amended by striking out both provisos at the end thereof.

(9) Section 32 of the Arms Control and Disarmament Act (22 U.S.C. 2572; 75 Stat. 634) is repealed.

(10) Subsection (e) of the section 302 of the Appalachian Regional Development Act of 1965 (40 U.S.C. App. 302(e); 79 Stat. 5) is repealed.

(11) Except for paragraph (l), section 9 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5908; 88 Stat. 1887) is repealed.

(12) Section 5(i) of the Tennessee Valley Authority Act of 1933 (16 U.S.C. 831d(i); 48 Stat. 61) is amended by striking both proviso clauses at the end thereof.

(13) Section 5(d) of the Consumer Product Safety Act (15 U.S.C. 2054(d); 88 Stat. 1211) is repealed.

(14) Section 3 of the Act of April 5, 1944 (30 U.S.C. 323; 58 Stat. 191), is repealed.

(15) Section 8001 of the Solid Waste Disposal Act (42 U.S.C. 6981; 90 Stat. 2829) is repealed.

~~(16) Section 6 of the Patent and Trademark Amendment of 1980 (35 U.S.C. 38; 94 Stat. 3018) is repealed.~~

(16)(A) Chapter 38 of title 35, United States Code, is repealed.

(B) The table of chapters of title 35, United States Code, is amended by striking out the item pertaining to chapter 38.

(17) Section 6(e) (1) and (2) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3705(e) (1) and (2); 94 Stat. 2313) is repealed.

CHAPTER 3—EFFECTIVE DATE PROVISION

EFFECTIVE DATE

SEC. 531. This Act shall take effect on the first day of the seventh month beginning after the date of enactment of this Act, except that regulations implementing this Act may be issued prior to such day.

○

Introduction 1

Chapter 1 Basic Concepts 5

Chapter 2 Basic Principles 15

Chapter 3 Basic Methods 25

Chapter 4 Basic Skills 35

Chapter 5 Basic Theories 45

Chapter 6 Basic Applications 55

Chapter 7 Basic Examples 65

Chapter 8 Basic Exercises 75

Chapter 9 Basic Solutions 85

Chapter 10 Basic Summary 95

Appendix A Basic Formulas 105

Appendix B Basic Tables 115

Appendix C Basic Charts 125

Appendix D Basic Graphs 135

Bibliography 145

Index 155