Calendar No. 1427

89TH CONGRESS, 2d Session } SENATE { REPORT No. 1461

FEDERAL INVENTIONS ACT OF 1966

AUG. 16, 1966.—Ordered to be printed

Mr. MCCLELLAN, from the Committee on the Judiciary, submitted the following

REPORT

together with

INDIVIDUAL VIEWS

[To accompany S. 1809]

The Committee on the Judiciary, to which was referred the bill (S. 1809) to establish a uniform national policy concerning property rights in inventions made through the expenditure of public funds and for other purposes, having considered the same, reports favorably thereon, with an amendment in the nature of a substitute, and recommends that the bill, as amended, do pass.

AMENDMENT

Strike all after the enacting clause and insert in lieu thereof the following:

That this Act may be cited as the "Federal Inventions Act of 1966".

DEFINITIONS

SEC. 2. As used in this Act—

(a) The term "Government agency" includes any executive or military department of the United States, any other agency, independent commission, board, office, administration, or authority of the Government, and any wholly owned Government corporation.

(b) The term "agency head" means the head of any Government agency, except that (1) the Secretary of Defense shall be the head of the Department of Defense and of each military department thereof, and (2) in the case of any authority,

commission, or other agency, control over which is exercised by more than one individual, such term means the body exercising such control.

(c) The term "contract" means any contract, grant, agreement, commitment, understanding, or other arrangement entered into between any Government agency and any other person where a purpose of the contract is the conduct of experimental, development, or research work. Such term includes any assignment, substitution of parties, or subcontract of any tier entered into or executed for or in connection with the performance of that contract.

(d) The term "contractor" means any person and any public or private corporation, partnership, firm, association, institution, or other entity which is a party to the contract.

(e) The term "invention" means any invention, discovery, innovation, or improvement which, without regard to the patentability thereof, falls within the classes of patentable subject matter defined in title 35, United States Code.

(f) The term "disclosure" means a written statement sufficiently complete as to technical detail to convey to one skilled in the art to which the invention pertains a clear understanding of the nature, purpose, operation and, as the case may be, physical, chemical, or electrical characteristics of the invention.

(g) The term "made" when used in relation to any invention, means the conception or first actual reduction to practice of such invention in the course of any experimental, development, or research work under the contract.

(h) The term "to bring to the point of 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 reasonably accessible to the public.

(i) The term "principal rights" when used in relation to any invention, means all rights to and interest in such invention with the exception of the rights reserved either to the Government or to the contractor under section 3, as the case may be.

CONTRACT REQUIREMENTS

SEC. 3. (a) Whenever a contract is entered into, there shall be deemed to be included therein contract provisions, in accordance with regulations promulgated by the head of the contracting agency or under section 5(a), to carry into effect the requirements of this Act.

(b) Each contract entered into shall contain provisions effective to—

(1) require the prompt disclosure by the contractor to that agency of any invention made under the contract;

(2) reserve to the United States rights in each such invention as the head of the agency may determine in conformity with the provisions of this Act;

(3) reserve to the United States not less than an irrevocable, nonexclusive, nontransferable, royalty-free license for the practice of each such invention throughout the world, by or on behalf of the United States (including any agency thereof, State, or domestic municipal government) and if the agency head determines it to be in the interests of the United States, reserve such a license to a foreign government pursuant to any treaty or other agreement with the United States;

(4) reserve to the contractor, subject to the provisions of sections 3(b)(9) and 6(b), not less than an irrevocable, nonexclusive, royalty-free license for the practice throughout the world of each such invention. In the case of nonprofit institutions such license shall be transferable subject to the approval of the agency which awarded the contract. In the case of any other contractor, such license shall extend to its existing and future associated and affiliated companies, if any, within the corporate structure of which the contractor is a part and shall be nontransferable, except that it shall be assignable to the successor of that part of the contractor's business to which such invention pertains;

(5) reserve to the United States, whenever principal rights to an invention made under a contract are acquired by any person other than an agency head on behalf of the United States, the right to license or require the owner of such rights to license other persons to practice such invention on a royalty-free basis or on terms that are reasonable in the circumstances after a determination made by the agency head that the owner of such rights has not taken effective steps within three years after a patent issued on the invention to bring the invention to the point of practical application;

(6) reserve to the United States, whenever principal rights to any invention made under a contract are acquired by any person other than an agency

head on behalf of the United States, the right to license or require the owner of such rights to license other persons to practice such invention on terms that are reasonable in the circumstances, as determined by the agency head, after a determination made by the agency head that the public health, safety, or welfare requires the issuance of such licenses, or that the public interest would otherwise suffer unless such licenses were granted;

(7) provide, whenever principal rights in any invention made under a contract are acquired by the United States, and the agency head does not elect to secure a patent in a foreign country, appropriate means whereby the contractor may acquire such greater foreign rights subject to the rights reserved to the United States in subsections (b)(2) and (b)(3) of this section;

(8) provide, in the event a patent application is filed or caused to be filed by the contractor on any invention made under a contract, appropriate means whereby the applicant shall be required to include within the first paragraph of the specification of such application and any patent issuing thereon, a statement specifying that the invention described therein is subject to the provisions of this Act;

(9) provide appropriate means whereby all rights in the invention made under a contract shall become the exclusive property of the United States, upon a determination made by an agency head that (i) the contractor failed to render a prompt disclosure of such invention to that agency, or (ii) in an appropriate proceeding brought under applicable antitrust laws before properly constituted authority authorized to hear such matters, there was a final conclusion that the patent covering such invention has been used for an unlawful purpose in restraint of trade, or (iii) the statement required by section 5(b) contained a false representation;

(10) provide, whenever principal rights to any invention made under a contract are acquired by any person other than the agency head on behalf of the United States, the right to require the owner of such rights to provide written reports at reasonable intervals, when requested by the agency, on the commercial use that is being made or is intended to be made of such invention; and

(11) provide that nothing contained in this Act shall be construed as requiring the granting to the United States of any right or interest duly acquired in or with respect to any patent issued for any invention not made under the contract.

PROPERTY RIGHTS

SEC. 4. (a) The agency head shall acquire, at the time of entering into a contract, on behalf of the United States the principal rights in any invention made by a contractor if:

(1) a principal purpose of the contract is to create, develop, or improve products, processes, or methods which are intended for commercial use by the general public, or which will be required for such use by governmental regulations; or

(2) a principal purpose of the contract is for experimental, developmental, or research work which directly concerns the public health, welfare, or safety; or

(3) the contract is in a field of science or technology in which there has been little significant experience outside of work funded by the Government, or where the Government has been the sole, principal, or prime developer of the field, and the acquisition of principal rights at the time of contracting might confer on the contractor a preferred or dominant position; or

(4) the services of the contractor are for the operation of a Government-owned research or production facility, or for coordinating and directing the work of others.

The contractor may acquire at the time of contracting or upon disclosure of the invention, greater rights than the nonexclusive license specified in section 3(b)(4) if the agency head determines that:

(A) the actual or anticipated aggregate financial contribution of the Government to the making and perfecting of the invention to the point of practical application and use has been or is expected to be less than the actual or anticipated aggregate financial contribution of the contractor and other persons associated with the contractor in the making and perfecting of the invention to the point of practical application and use; or

(B) because of the additional expenditures of non-Government funds necessary to bring the invention to the point of practical application and use and the risks involved in making such expenditures, the granting of such

rights to the contractor and other persons associated with the contractor is more likely to accelerate or assure such development and availability for public use; or

(C) other equities exist in favor of the contractor and the granting of such rights would be consistent with the public interest.

(b) The contractor shall normally acquire, at the time of contracting, the principal rights to any invention made under a contract not falling within any category set forth in paragraphs (1) through (4) of subsection (a) of this section, if the agency head determines that—

(1) the purpose of the contract is to build upon existing knowledge or technology to develop information, products, processes, or methods for use by the Government, and the work called for by the contract is in a field of technology in which the contractor has acquired technical competence directly related to an area in which he has an established nongovernmental, commercial position; or

(2) the contractor is (i) a small business concern, as certified by the Administrator of the Small Business Administration in accordance with the criteria of the Small Business Act, 15 U.S.C. 632, or a nonprofit organization, no part of the net earnings of which inures to the benefit of any private stockholder or individual, and (ii) the agency head determines, after considering the intentions and plans of the contractor to bring inventions made under the contract to the point of practical application, that such action will serve the public interest.

(c) As to any other contract not falling within the purview of subsections (a) or (b) of this section, the determination of rights in any invention made by the contractor shall be determined by the agency head after the disclosure required by section 3(b)(1) has been received. Upon a request made by the contractor within a reasonable time determined by the agency after receipt of the disclosure by the agency, the agency head may accord principal rights to the contractor if the agency head, after considering the contractor's intentions and plans to bring the invention to the point of practical application, determines that the public interest will be served thereby. In making such a determination, the agency head shall take into consideration that normally the public interest will not be served by the contractor acquiring the principal rights to such inventions where it is found that the invention:

(1) is directly related to a Government program for creating, developing, or improving products, processes, or methods intended for commercial use by the general public; or

(2) will be required for such use by governmental regulations; or

(3) is directly related to the public health, welfare, or safety; or

(4) is in a field of science or technology in which there has been little significant experience outside of work funded by the Government, or where the Government has been the sole principal, or prime developer of the field, and the acquisition of principal rights might confer upon the contractor a preferred or dominant position.

If no request is made by the contractor for principal rights within the period specified by the agency, the principl rights to such inventions shall be deemed vested in the United States.

(d) Whenever a determination as to whether a contract falls within any of subsections (a), (b), or (c) of this section would unduly delay execution of the contract, such determination may be made after execution of the contract, provided that in each such instance the agency head shall reserve at the time the contract is executed the right to acquire the principal rights to all inventions which may be made under the contract.

PROCEDURES AND JUDICIAL REVIEW

SEC. 5. (a) The President shall issue such rules and regulations as may be necessary or desirable to carry out and effectuate the policies and provisions of this Act.

(b) Before any United States patent, not assigned to the United States, is issued on any invention, the applicant therefore shall be required to submit a statement to the Commissioner of Patents under rules promulgated by him declaring whether or not the invention was made under a contract with any Government agency.

(c) Determinations made by an agency head under sections 3(b)(5), 3(b)(6), or 3(b)(9) shall be made only after providing the owner of the rights reasonable notice that such a determination is under consideration and the opportunity to present such facts which the owner believes will be pertinent to the making of

the determination. If the parties to a license granted or a proposed license required to be granted under sections 3(b)(5) or 3(b)(6) cannot reach an agreement on the terms of such license, the agency head may determine terms which are reasonable in the circumstances after affording such parties the opportunity to present such facts as may be pertinent to the establishment of such terms.

(d) Whenever any final determination affecting rights in an invention under this Act is made by an agency head, any party aggrieved thereby, shall have a remedy by civil action against the United States in the United States District Court in the District of Columbia or in the United States District Court for the district in which such party resides, if such action is commenced within sixty days after notification of such a determination. The court shall have the power to affirm, modify, or set aside the determination, and the judgment and decree of the court shall be final except that it shall be subject to review as provided in sections 1291 and 1254 of title 28, United States Code.

UTILIZATION OF GOVERNMENT-OWNED INVENTIONS

SEC. 6. (a) Each agency head, or the Attorney General upon request made by the agency head, is authorized to take all suitable and necessary steps to protect and enforce the rights of the United States in any invention made under a contract with such agency.

(b) Government-owned inventions shall be made available and their technological advances brought into being through dedication to the public, publication, or licensing. Licensing within the United States, its possessions and territories, normally shall be on a royalty-free, nonexclusive basis. If such nonexclusive licensing either fails to result in the practice of the invention, or if it initially appears that exclusive licensing will more effectively promote utilization of an invention in the public interest, each Government agency may grant exclusive licenses for the practice of such invention, subject to the rights retained by the Government in section 3 and subject to a nonexclusive license to the contractor on terms that are reasonable in the circumstances, in lieu of the license specified in section 3(b)(4), such terms to be determined by the agency head only after affording the contractor the opportunity to present such facts as may be pertinent. Exclusive licenses for use of an invention either domestically or in foreign countries may be granted under such terms as the agency head may determine to be in the public interest, and may be granted for the unexpired term of the patent or for a more limited period of time, and may be granted with or without the payment of royalties to the United States.

DELEGATION OF AUTHORITY

SEC. 7. Each agency head may delegate any authority conferred upon him by this Act to any officer, official, or other employee of the agency, except for the authority to make determinations as to the granting of greater rights as provided for in section 4(a): *Provided, however,* that the Secretary of Defense may authorize the Secretaries of the Army, Navy, and Air Force to make such determinations under section 4(a) with respect to contracts entered into by the respective military departments.

RECORDS AND REPORTS

SEC. 8. (a) Each agency shall develop and preserve for not less than six years records in support of:

(1) the application of sections 4(a), 4(b), or 4(c) to individual contracts;

(2) the identity and circumstances surrounding each contract or invention which was determined by the agency head to fall within the greater rights provision of section 4(a) during the reporting period;

(3) determinations made in regard to individual inventions under section 4(c); and

(4) agency determinations and actions under sections 3(b)(5), 3(b)(6), and 3(b)(9).

(b) The President shall submit annually a report to the Congress concerning the operation of the Government agencies under the policies and provisions set forth in this Act. Such annual reports shall include the following information:

(1) the number of contracts or procurement actions entered into by each Government agency during the reporting period classified according to the subsections (a), (b), and (c) of section 4;

(2) the number of inventions disclosed to each Government agency with respect to which the Government acquired principal or exclusive rights during the reporting period;

(3) the number of inventions disclosed to each Government agency with respect to which contractors retain principal or exclusive rights during the reporting period;

(4) the number of United States and foreign patents issued to each agency on behalf of the United States during the reporting period;

(5) the number of United States and foreign patents issued to contractors during the reporting period on inventions made under contracts of each agency;

(6) the number of types of licenses granted during the reporting period by each Government agency on patents or patent applications held by that agency on behalf of the United States; and

(7) a description of the actions taken by or on behalf of each agency under sections 3(b)(5), 3(b)(6), and 3(b)(9).

SEVERABILITY CLAUSE

SEC. 9. If any provision of this Act, or the application of such provision to any person or circumstance, is held invalid, the remainder of this Act or the application of such provisions to persons or circumstances other than those as to which it is held invalid, shall not be affected thereby.

TECHNICALITY AMENDMENTS

SEC. 10. (a) Section 10(a) of the Act of June 29, 1935, as added by section of the Act of August 14, 1946 (60 Stat. 1085, as amended; 7 U.S.C. 427i(a)) is amended by striking out the following language: "Any contracts made pursuant to this authority shall contain requirements making the results of research and investigations available to the public through dedication, assignment to the Government, or such other means as the Secretary shall determine."

(b) Section 205(a) of the Act of August 14, 1946 (60 Stat. 1090, as amended; 7 U.S.C. 1624(a)), is amended by striking out the following language: "Any contract made pursuant to this section shall contain requirements making the result of such research and investigations available to the public by such means as the Secretary of Agriculture shall determine."

(c) Section 301(a) of the Act of August 10, 1948 (62 Stat. 1276, as amended; 12 U.S.C. 1701e(a)), is amended by striking out the following language: "All contracts made by the Administrator for technical research and studies authorized by this or any other Act shall contain requirements making the results of such research or studies available to the public through dedication, assignment to the Government, or such other means as the Administrator shall determine."

(d) The National Science Foundation Act of 1950 is amended by repealing section 12 thereof (42 U.S.C. 1871).

(e) The Atomic Energy Act of 1954 is amended by repealing section 152 thereof (42 U.S.C. 2182).

(f) The National Aeronautics and Space Act of 1958 is amended by—

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

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

(3) inserting at the end of section 203 thereof (42 U.S.C. 2473) the following new subsection: "(c) 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."

(g) The Coal Research and Development Act of 1960 is amended by repealing section 6 thereof (30 U.S.C. 666).

(h) The Helium Act Amendments of 1960 is amended by striking out the following language in section 4 thereof (50 U.S.C. 167b): "*Provided, however,* That all research contracted for, sponsored, cosponsored, or authorized under authority of this Act shall be provided for in such a manner that all information, uses, products, processes, patents, and other developments resulting from such

research developed by Government expenditure will (with such exceptions and limitations, if any, as the Secretary may find to be necessary in the interest of national defense) be available to the general public: *And provided further*, That nothing contained herein shall be construed as to deprive the owner of any background patent relating thereto to such rights as he may have thereunder."

(i) The Saline Water Conversion Act of 1961 is amended by repealing section 4(b) thereof (42 U.S.C. 1954).

(j) The Arms Control and Disarmament Act of 1961 is amended by repealing section 32 thereof (22 U.S.C. 2572).

(k) The Water Resources Research Act of 1964 is amended by repealing section 303 thereof (42 U.S.C. 1961c-3).

(l) The Appalachian Regional Development Act of 1965 is amended by repealing section 302(d) thereof (79 Stat. 20).

(m) The Solid Waste Disposal Act is amended by repealing section 204(c) thereof (79 Stat. 999).

EFFECTIVE DATE

SEC. 11. This Act shall take effect on the first day of the fourth month beginning after the date of enactment of this Act.

Amend the title so as to read as follows:

To establish a uniform national policy concerning property rights in inventions resulting from the expenditure of public funds for experimental, developmental, or research work, for promoting the utilization of such inventions, and for other purposes.

PURPOSE

The purpose of the proposed legislation, as amended, is to establish a uniform national policy concerning property rights in inventions resulting from the expenditure of public funds for experimental, developmental, or research work. At the present time the patent policies of some Government agencies are controlled by statute while other agencies do not operate under a statutory policy but under the Statement of Government Patent Policy issued by President John F. Kennedy on October 10, 1963.

In recent years the Congress has authorized a number of new programs which provide for the conduct of research. Frequently, in the consideration of these measures, patent amendments have been proposed. A number of these amendments was approved, but others failed of enactment. As a result, existing patent policies are a hodgepodge of legislative or executive action. The purpose of the bill, therefore, is to establish a general policy which would govern all Government expenditures for research and development work. All existing statutory patent provisions relating to contracts for research and development would be repealed.

The legislation also seeks to promote the utilization of the new technology resulting from the Government's expenditures for research and development. This will be accomplished principally by permitting the contractor in most situations to retain ownership of the patent rights so that the investment of additional funds necessary to develop the invention to the point of commercial use will be encouraged. In situations where the Government acquires the principal rights the legislation seeks to make the new technological advances available to the public through dedication, publication, or licensing.

STATEMENT

VIEWS OF GOVERNMENT AGENCIES

The reports received from Government agencies concerning S. 1809 are contained in the printed hearings on this legislation.

The Department of Agriculture recommended enactment of S. 1809 with certain specific changes.

The Atomic Energy Commission urged more study of the experience under the Statement of Government Patent Policy of October 10, 1963, issued by President John F. Kennedy before legislation is enacted, and accordingly, did not favor S. 1809.

The Bureau of the Budget indicated that if legislation were enacted, it favored the approach of S. 1809.

The Department of Commerce urged enactment of S. 1809 with certain amendments.

The Comptroller General urged enactment of legislation, but took no position concerning the policy issues involved.

The Department of Defense supported S. 1809 with certain amendments.

The Federal Aviation Agency reported that the provisions of S. 1809 would not require a change in the basic patent policy of the agency.

The Federal Communications Commission took no position on S. 1809 because of the absence of any significant research contracting experience.

The General Services Administration generally favored the enactment of S. 1809.

The Department of Health, Education, and Welfare indicated that additional experience should be gained under the Statement of Government Patent Policy of October 10, 1963, before legislation was enacted. However, if the Congress decided to legislate, it favored S. 1809 with certain amendments.

The Department of the Interior indicated that no legislation was necessary, but that S. 1809 would have no significant effect on its patent practices.

The Department of Justice reported that more experience is required under the Statement of Government Patent Policy and that it was, therefore, opposed to legislation at this time.

The National Aeronautics and Space Administration supported S. 1809 with certain amendments.

The National Science Foundation in general favored enactment of S. 1809.

The Post Office Department reported that S. 1809 was the most acceptable of the pending bills.

The Department of State supported S. 1809 with certain amendments.

The Tennessee Valley Authority favored further study of the experience under the Statement of Government Patent Policy, but reported that S. 1809 would have little effect on the patent practices of the agency.

The Department of the Treasury reported that it has no significant research contracting experience, and that S. 1809 would not adversely affect the operations of the Department.

The U.S. Arms Control and Disarmament Agency reported that it preferred S. 1809.

The Veterans' Administration reported that generally the provisions of S. 1809 were in accord with its patent policies.

Legislative History

This proposed legislation represents the culmination of a long period of study, investigation, and hearings concerning the allocation of patent rights in inventions made under Government-financed contracts or grants. As the dollar volume of Government research and development contracts increased to its present annual level of over $15 billion, greater consideration was given to the ownership of the patent rights in the inventions resulting from this research.

This committee's Subcommittee on Patents, Trademarks, and Copyrights published a series of staff reports describing the patent practices of the Department of Defense, Department of Health, Education, and Welfare, Department of Agriculture, Department of Commerce, Department of the Interior, Department of the Treasury, Post Office Department, National Science Foundation, General Services Administration, Tennessee Valley Authority, Federal Aviation Agency, Federal Communications Commission, Veterans' Administration, Government Printing Office, and Government Patents Board.

In 1960 the then chairman of the Subcommittee on Patents, Trademarks, and Copyrights, Senator Joseph C. O'Mahoney, introduced S. 3156 of the 86th Congress to provide "for the protection of the interests of the United States in basic research with respect to patent rights arising from research conducted under projects financed by the United States." Hearings on this bill were conducted on May 17 and 18, 1960. With the retirement of Senator O'Mahoney, his successor as chairman of the subcommittee, Senator John L. McClellan in 1961 introduced S. 1084 of the 87th Congress, which was identical to S. 3156. This bill was introduced solely to provide a basis for the further consideration of this subject. Senator Russell B. Long introduced during the same Congress, S. 1176 and hearings on both of these bills were conducted on April 18, 19, 20, and 21, May 31, and June 1 and 2, 1961. No further action was taken by the subcommittee during the 87th Congress.

During this period the Congress enacted a series of bills authorizing new or expanded programs of Government-sponsored research. Frequently during the consideration of these measures, either in committee or on the floor, amendments were proposed to incorporate provisions establishing a statutory patent policy for these new programs. Such provisions were included in the Coal Research and Development Act of 1960, the Helium Act Amendments of 1960, the Saline Water Conversion Act of 1961, the Arms Control and Disarmament Act of 1961, the Water Resources Research Act of 1964, the Appalachian Regional Development Act of 1965, and the Solid Waste Disposal Act of 1965.

During the 88th Congress, Senator McClellan introduced S. 1290 which differed in many respects from the predecessor bills. Senator Long introduced S. 1432 which was similar to his bill of the previous Congress, and Senator Saltonstall introduced S. 1623. On October 10, 1963, President John F. Kennedy promulgated a Statement of Government Patent Policy to control the patent practices of those Government agencies which did not have a statutory policy, and also

to govern the practices of the agencies having such a policy to the extent that the President's statement was not inconsistent with the statutory policy. No action was taken on the patent policy bills introduced in the 88th Congress so as to allow a period of time to observe the operation of the policy statement.

It became apparent, however, that the need for legislation persisted and that the basic policy question involved should be determined by the Congress. Therefore, in 1965 in the first session of the present Congress, Senator McClellan introduced S. 1809 which is a modified version of S. 1290. Senator Saltonstall introduced S. 789 and Senator Long introduced S. 1899 which are similar to their earlier bills. Hearings on these bills were commenced on June 1, 1965, and continued on June 2 and 3, July 6 and 7, and August 17 and 19, 1965. While these hearings were in progress, Senator Everett Dirksen introduced S. 2326 to, likewise, establish a National Government patent policy. Subsequent to the hearings, but prior to the consideration of these measures in executive session by the Subcommittee on Patents, Trademarks, and Copyrights, Senator Philip Hart, for himself and Senator Quentin Burdick, introduced S. 2715, to also establish a uniform national policy.

While the subcommittee was holding hearings on these bills, the Senate, on two occasions in 1965, tabled amendments to pending bills, which amendments would have established a statutory patent policy applying to the research authorized by those measures. This was done so as to permit the Senate to resolve the issue of Government patent policy on a comprehensive basis rather than on a piecemeal basis.

Sectional Analysis

An analysis of the provisions of S. 1809, as amended, follows:

Section 1. Title

Section 1 provides that this act may be cited as the "Federal Inventions Act of 1966."

Section 2. Definitions

Section 2(a) defines the term "Government agency" to include any executive or military department of the United States, any other agency, independent commission, board, office, administration, or authority of the Government, and any wholly owned Government corporation.

Section 2(b) defines the term "agency head" to mean the head of any Government agency.

Section 2(c) defines the term "contract" to include any contract, grant, agreement, commitment, understanding, or other arrangement entered into between any Government agency and any other person where a purpose of the contract is the conduct of experimental, development, or research work. The definition specifically includes substitutions of parties and subcontracts of any lower tier.

Section 2(d) defines the term "contractor" to mean any person, any public or private corporation, partnership, firm, association, institution, or other entity which is a party to a contract or a subcontract thereunder.

Section 2(e) defines the term "invention" to include any invention, discovery, innovation, or improvement, without regard to the patent-

ability thereof, which falls within the classes of patentable subject matter defined in title 35 of the United States Code. This definition requires the contractor to report those items which appear to be within the general classes of patentable subject matter, without regard to the fact that the item may not be patentable for technical legal reasons.

Section 2(f) defines the term "disclosure" to require a written statement sufficiently complete to convery to one skilled in the art to which the invention pertains a clear understanding of the nature, purpose, operation, and characteristics of the invention.

Section 2(g) defines the term "made" as meaning the conception or first actual reduction to practice of the invention in the course of any experimental, development, or research work under the contract.

Section 2(h) defines the term "to bring to the point of practical application" as requiring the manufacturing, practicing, or operating of the invention under such conditions as to establish that the invention is being worked and that its benefits are reasonably accessible to the public.

Section 2(i) defines the term "principal rights" as encompassing all rights and interest in subject inventions with the exception of the rights reserved either to the Government or to the contractor. When applied to the Government, principal rights means all rights to the invention except for the nonexclusive license retained by the contractor and the residual rights in foreign countries whenever the Government does not exercise its option for such foreign rights. When used in connection with a contractor, the term "principal rights" includes all rights in an invention except for the royalty-free license reserved to the Government, the right for the Government to either license on behalf of the contractor or require the contractor to license, and the right for the Government to require the forfeiture of all rights given to the contractor under the circumstances provided for in section 3.

Section 3. Contract requirements

Section 3(a) provides that whenever a contract is entered into, there shall be deemed to be included therein contract provisions, in accordance with regulations promulgated by the head of the contracting agency or by the President under section 5(a), to carry into effect the requirements of this act. This provision operates to automatically incorporate appropriate patent provisions in subject contracts even if the patent contract provisions were omitted through inadvertence or error.

Section 3(b) requires that each such contract shall contain certain specified provisions.

Subsection (1) requires the inclusion in the contract of provisions to assure the prompt disclosure by the contractor of subject inventions.

Subsection (2) directs the inclusion of provisions to reserve to the United States rights in each subject invention as the head of the agency may determine in conformity with the provisions of this act.

Subsection (3) requires the inclusion of provisions reserving to the United States not less than a royalty-free license for the practice of subject inventions throughout the world, by or on behalf of the United States (including any agency thereof, State, or domestic municipal government), and if the agency head determines it to be in the interests of the United States, reserve such a license to a foreign government

pursuant to any treaty or other agreement with the United States. This language does not require an automatic license to foreign governments. Each agency head is granted the authority to determine whether or not foreign governments should receive a license depending upon the existence of treaties or other agreements.

Subsection (4) reserves to the contractor, subject to the provisions of section 3(b)(9) and section 6(b), a royalty-free license for the practice throughout the world of each such invention and provides in the case of nonprofit institutions that such license shall be transferrable subject to the approval of the agency which awarded the contract.

Subsection (5) requires the inclusion of contract provisions reserving to the United States whenever the principal rights are acquired by any person other than the agency head, the right to license or require the owner of such rights to license other persons to practice the invention on a royalty-free basis or on terms that are reasonable in the circumstances after a determination made by the agency that the owner of the principal rights has not taken effective steps within 3 years after the issuance of the patent to bring the invention to the point of practical application. It is not contemplated by this subsection that the United States should license or require the owner of the patent rights to license other persons if the owner of the principal rights has exerted substantial efforts to develop the invention, but such efforts have not been effective because of the necessity to comply with Government regulations.

Subsection (6) requires the inclusion in the contract of provisions reserving to the United States, whenever the principal rights are acquired by any person other than the agency head, the right to license or require the owner of such rights to license other persons to practice the invention on terms that are reasonable in the circumstances, as determined by the agency head, after a determination made by the agency head that the public health, safety, or welfare requires the issuance of such licenses, or that the public interest would otherwise suffer unless such licenses were granted.

Subsection (7) requires the inclusion in the contract of provisions to permit the contractor to acquire certain foreign patent rights when the agency head does not elect to secure a patent in a foreign country.

Subsection (8) requires the inclusion in the contract of provisions to assure that when a patent application is filed by the contractor on an invention made under the contract, the applicant shall be required to include within the specification of the application and of any issuing patent, a statement specifying that the invention is subject to the provisions of this act.

Subsection (9) requires the inclusion in the contract of provisions to assure that all rights in subject inventions shall become the exclusive property of the United States if the contractor failed to render a prompt disclosure of the invention, or a patent covering such invention had been used for an unlawful purpose in restraint of trade, or a false representation was contained in the statement required by section 5(b), whereby an applicant for a U.S. patent must submit a statement declaring whether or not the invention was made under a contract with any Government agency.

Subsection (10) requires the inclusion in the contract of provisions to insure that whenever the principal rights to an invention are acquired by any person other than the agency head, the Government

shall have the right to require the owner of such rights to provide reports concerning the commercial use of the invention.

Subsection (11) requires the inclusion in the contract of provisions to insure that the United States shall not acquire any rights with respect to any patent issued for an invention not made under the contract.

Section 4. Property rights

Section 4 in general provides for three different types of procedures for allocating rights under subject contracts.

Section 4(a) specifies that the agency head shall acquire the principal rights in any invention made by a contractor if: (1) a principal purpose of the contract is to create, develop, or improve products, processes, or methods which are intended for commercial use by the general public, or which will be required for such use by governmental regulations; or (2) a principal purpose of the contract is for experimental, developmental, or research work which directly concerns the public health, welfare, or safety; or (3) the contract is in a field of science or technology in which there has been little significant experience outside of work funded by the Government, or where the Government has been the sole, principal, or prime developer of the field, and the acquisition of principal rights at the time of contracting might confer on the contractor a preferred or dominant position; or (4) the services of the contractor are for the operation of a Government-owned research or production facility, or for coordinating and directing the work of others.

The contractor at the time of contracting or upon disclosure of the invention may acquire greater rights than a nonexclusive license if the agency head determines that: (A) the actual or anticipated aggregate financial contribution of the Government to the marking and perfecting of the invention to the point of practical application and use has been or is expected to be less than the actual or anticipated aggregate financial contribution of the contractor and other persons associated with the contractor in the making and perfecting of the invention to the point of practical application and use; or (B) because of the additional expenditures of non-Government funds necessary to bring the invention to the point of practical application and use and the risks involved in making such expenditures, the granting of such rights to the contractor and other persons associated with the contractor is more likely to accelerate or assure such development and availability for public use; or (C) other equities exist in favor of the contractor and the granting of such rights would be consistent with the public interest.

Section 4(b) provides that the contractor shall normally acquire at the time of contracting the principal rights to inventions made under contracts, other than those falling within subsection (a) of section 4, if the agency head determines that (1) the purpose of the contract is to build upon existing knowledge or technology and the work called for by the contract is in a field of technology in which the contractor has acquired technical competence directly related to an area in which he has an established commercial position; or (2) the contractor is a small business concern or a nonprofit organization, and the agency head determines that the granting of principal rights would serve the public interest.

Section 4(c) provides that the determination of rights in inventions made under contracts not within the purview of subsections (a) or (b) shall be determined by the agency head following disclosure of

the invention. The agency head may accord principal rights to the contractor if he determines that the public interest will be served thereby. It is further provided that in making such determinations the agency head shall take into consideration that normally the public interest will not be served by the contractor acquiring the principal rights to inventions (a) directly related to a Government program for creating, developing, or improving products, processes, or methods intended for commercial use by the general public; or (2) will be required for such use by governmental regulations; or (3) directly related to the public health, welfare, or safety; or (4) in a field of science or technology in which there has been little significant experience outside of work funded by the Government, or where the Government has been the sole principal, or prime developer of the field, and the acquisition of principal rights might confer upon the contractor a preferred or dominant position.

Section 4(d) provides that whenever a determination as to whether a contract falls within any of subsections (a), (b), or (c) would unduly delay execution of the contract, such determination may be made after execution of the contract, provided that the agency head shall reserve the right to acquire the principal rights to all inventions made under the contract.

Section 5. Procedures and judicial review

Section 5(a) authorizes the President to issue necessary rules and regulations to carry out the policies of this act.

Section 5(b) requires that any applicant for a U.S. patent shall submit a statement to the Commissioner of Patents declaring whether or not the invention was made under a Government contract.

Section 5(c) requires that prior to any determinations by an agency head relating to the licensing provisions of 3(b)5 and 3(b)6, or the forfeiture of contractor's patent rights under 3(b)9, the owner of the patent rights must be accorded notice and an opportunity to present pertinent facts. It is further provided that if the parties to a license under sections 3(b)5 or 3(b)6 cannot agree on the terms of such license, the agency head may determine terms which are reasonable in the circumstances.

Section 5(d) provides for judicial review of any final determination affecting rights in inventions under this act.

Section 6. Utilization of Government-owned inventions

Section 6(a) authorizes each agency head, or the Attorney General to take necessary steps to protect and enforce the rights of the United States in subject inventions.

Section 6(b) declares that Government-owned inventions shall be made available through dedication to the public, publication, or licensing. It is provided that licensing normally shall be on a royalty-free nonexclusive basis. If nonexclusive licensing fails to result in the practice of the invention or if it initially appears that exclusive licensing will more effectively promote utilization of an invention, each Government agency may grant exclusive licenses subject to the rights retained by the Government and by the contractor.

Section 7. Delegation of authority

Section 7 authorizes each agency head to delegate the authority conferred upon him by this act with the exception of the authority to

make determinations as to the granting of greater rights as provided for in section 4(a).

Section 8. Records and reports

Section 8(a) requires each agency to develop and preserve for not less than 6 years certain records relating to certain determinations made pursuant to the provisions of this act.

Section 8(b) provides that the President shall submit annually a report to the Congress concerning the operation of the Government agencies under the policies of this act. The section specifies the information which shall be included in such reports.

Section 9. Severability clause

Section 9 provides that if any provision of this act is held invalid the remainder of the act shall not be effected thereby.

Section 10. Technical amendment

Section 10 provides for a number of technical amendments to repeal all existing statutory provisions relating to property rights in inventions resulting from the expenditure of public funds for experimental, developmental, or research work.

Section 11. Effective date

Section 11 provides that this act shall take effect on the first day of the fourth month beginning after the date of enactment.

Discussion

Of the billions of dollars invested in research and development in this country each year, approximately $15 billion, estimated to be more than 70 percent of the total, is spent in programs sponsored and paid for by the Federal Government. The Department of Defense, the National Aeronautics and Space Administration, and the Atomic Energy Commission together spend more than $13 billion annually in research and development. In the medical field, over $1 billion is spent by the Department of Health, Education, and Welfare and by the National Science Foundation in supporting thousands of research efforts by individual scientists on campuses and by research organizations in industrial laboratories. Out of this enormous effort, literally hundreds of inventions are made and reported to Federal departments and agencies each month. A recent survey conducted by the Federal Council for Science and Technology indicates that over 8,000 inventions were made in the course of federally sponsored research and development contracts and reported to 15 agencies during fiscal year 1965. Almost 5,000 of these inventions were made during this period under contracts with the Department of Defense alone.

Notwithstanding this massive commitment of the Federal Government in sponsoring research and development, and notwithstanding the potential value of inventions resulting from this commitment, Congress has failed to enact a Government-wide policy for the management of this all-important national resource. Instead, in a number of isolated acts passed between 1946 and 1965, Congress has enacted patent provisions applicable only to a single agency, or to a single research and development program. Because Federal patent policy has never been formulated by the Congress in the meaningful context of the Government's overall research and development pro-

grams—with the goals and objectives underlying all of these programs clearly in view—the statutory patent provisions now in effect reflect widely varying policies and approaches.

In 1963 President Kennedy issued a Memorandum and Statement on Government Patent Policy (28 Fed. Reg. 10943–46) which was designed to establish common guidelines for all Federal departments and agencies to follow in allocating rights to inventions made under their contracts. This Presidential statement reflected the views and experience of all of the departments and agencies having research and development responsibilities, and was issued for all departments and agencies to follow within the context of specific statutes governing the allocation of rights to inventions.

This proposed legislation reflects the approach and criteria of the Presidential statement. To strengthen and complement these criteria, however, several important provisions not present in the statement are incorporated into the bill. These provisions—

(1) Expand the control which the Government acquires when principal rights to an invention are accorded a contractor to guarantee that the public interest will not be adversely affected even if circumstances change following the allocation of rights;

(2) Recognize the unique status of small business concerns and nonprofit institutions and the importance of inventions to their continued development and service to the public;

(3) Allow greater flexibility in cases where the Government contributes to only a minor portion of cost of the development of an invention; for example, when it cosponsors research;

(4) Provide procedural safeguards and the opportunity for judicial review of final determinations by agency heads affecting rights in inventions made under Government contracts; and

(5) Require the departments and agencies to develop and report to the Congress comprehensive statistical reports and information regarding their operations under this bill to facilitate a continuing review and, if necessary, modification of the guidelines established.

1. The need for a flexible approach

The Patent's subcommittee's studies of the patent policies of the various agencies, as well as the testimony and statements presented at the subcommittee hearings, demonstrate the fact that Government financial support of research and development involves virtually every conceivable combination of circumstances. No single rule or presumption could possibly provide adequately for every situation which might arise. This fact led to the rejection of an inflexible rule or standard in favor of establishing clear guidelines for executive action with sufficient discretion remaining in the agencies making the day-to-day decisions.

Government contractors range in size from this Nation's largest companies to individual scientists, from profit oriented to nonprofit, not-for-profit and educational institutions. There are diversified firms producing a range of products—those who specialize in the conduct of research for commercial and governmental applications, and those who do research only for the Government; in the case of smaller firms often in a narrow area only.

Government contracts are awarded for a sweeping variety of purposes, and with an almost limitless range of goals in mind. The

Department of Agriculture alone, for example, awards contracts "in the field of basic research to acquire scientific knowledge and in the field of applied research to discover * * * new uses for agricultural produces and to develop new equipment for use by agriculture and by those industries which use agricultural products as raw materials." The Department of Defense, on the other hand, supports research designed necessarily to meet military needs and for use only by the Government. The National Science Foundation, under its broad charter of encouraging research and education in the sciences, supports an extensive range of research programs, while the research conducted by the Atomic Energy Commission is generally limited to areas related to atomic energy and its uses. The research work conducted by the National Aeronautics and Space Administration cuts across all fields of science and technology extending, as reported by NASA, from giant rocket engines to microelectronics.

The contract work may fall in a new field of science or technology—for example, atomic energy, supported since its beginning largely at public expense—or it may fall into fields such as photography which have matured over the years through private efforts and at private expense.

Finally, inventions resulting from Government contracts may be fully developed and ready for immediate commercial use; they may result from a basic research program, for example, and be wholly undeveloped; or they may be complete only insofar as governmental purposes are concerned, but far from a form which civilian consumers could use or afford. The President's science adviser, Dr. Donald F. Hornig, reports that "almost all of the Federal research and development expenditures are aimed at achieving national goals other than the production of commercial products or processes for the economy," and thus it would be expected that the greatest number of inventions made under Government contracts would fall into the latter category and be a form suitable only for governmental purposes.

The foregoing factors have led all the Federal agencies having sizable research and development contracts—and this includes the Department of Defense, the Atomic Energy Commission, the National Aeronautics and Space Administration, the Department of Health Education, and Welfare, the Department of Interior, the Department of Agriculture, the Department of Commerce, and others—to adopt guidelines in the past under which they would acquire principal rights to contractor inventions in some or even most instances, but in others would require only a license for Government use or such a license coupled with other rights. As might be expected, given this experience, all of these agencies in commenting on the five bills pending before the subcommittee stressed the need for a flexible policy and for the retention of discretion by the individual agencies. For example, in commenting on S. 1809, the Atomic Energy Commission reported that S. 1809 was "generally in accord with the Commission's views that a flexible Government position is more desirable than rigid, inflexible requirements." Similarly, in opposing enactment of S. 1899 and the establishment of a centralized Federal Invention Administration, the Department of Agriculture urged that the "initiative in determining practices and procedures * * * remain with the operating agencies who are most familiar with the problems and needs of their individual spheres of activity."

The bill which the committee recommends for enactment achieves this needed flexibility in a number of ways which should be briefly outlined. Foremost among these is the fact that the bill defines in clear terms broad categories of contract situations and types of inventions and provides a formula for rights allocation tailored to fit each situation which is defined. Further, the bill includes provisions for departing from general rules in each category if defined factors indicate that the usual procedure should not be followed even though a given case falls within a category defined by the bill. In addition, the bill gives executive agencies the authority and the duty to readjust earlier allocations of rights where changing factors or accumulated experience indicate that adjustments should be made. Finally, the bill looks toward continuing review by the agencies implementing it and by the Congress itself to enable a periodic reassignment of the policy laid down in the context of its actual operation.

2. Situations in which the Government acquires principal rights

Section 4(a) of the bill defines four contract situations in which the Government must generally acquire, at the time of contracting, principal rights to all inventions which might be made under the contracts. These are situations, in the committee's view, in which the public interest normally predominates over other factors which might point to contractor retention of exclusive rights. Additionally, where the allocation of rights in an invention is deferred until reporting of the invention, under section 4(c) of the bill, the Government must acquire ownership of certain types of inventions where there is a high degree of public interest.

The overriding public interest in inventions resulting from certain Government contracts and the importance of certain contract inventions to Federal programs, require that full ownership of such inventions vest in the United States, except in cases where compelling equitable considerations point to the desirability of according greater rights than a nonexclusive license to the contractor. Much of the testimony during the subcommittee hearings was devoted to delineating those instances in which the Government should acquire title; and a number of agencies, including the Atomic Energy Commission, the Department of Health, Education, and Welfare, the Department of the Interior, the Department of Agriculture, and the Federal Aviation Agency expressed the opinion that the provisions of section 4(a) of S. 1809 were consistent with their policies regarding the taking of title to inventions arising under certain categories of contracts.

Where the Government contracts for development of end items for use by the general public, as in the case of agriculture utilization research under Department of Agriculture contracts, or fertilizer research for the Tennessee Valley Authority, in most instances inventions relating to the end item are developed under Government sponsorship to a point of practical commercial utility where they are ready for sale. In these cases, there is little remaining need for exclusivity as a spur to commercialization. The Government has recognized a public need, sponsored research to solve the need, and supported development of the resulting inventions to fruition as a solution of the problem. This being so, and in keeping with the ultimate goal of such programs, section 4(a)(1) of the bill provides for the Govern-

ment normally to acquire ownership of inventions resulting from these programs.

Similarly, in a number of instances where the Government sponsors research and development related to the public health, welfare, or safety, resulting inventions are fully developed under Government contracts. This is true, for example, where the Department of Defense contracts for the development of antimalarial vaccines or dental equipment for use by servicemen, and under some programs of the Department of Health, Education, and Welfare. As the testimony of Government, industry, and university witnesses at the hearings clearly indicated, however, there are many exceptions to this rule. In the health field, in particular, a great deal of privately funded testing, evaluation, and refinement is often necessary before an invention made under a Government grant or contract can become of benefit to the public.

Dr. Shannon, the Director of the National Institutes of Health, and a number of other witnesses pointed out that particularly in the case of Government grants or research contracts for basic research relating to diseases, it may often be the case that components may be conceived and perhaps synthesized in small quantities which appear to have potential benefits as a cure for or a preventative against the disease being studied or other diseases. Often Government support for the research ends at this point without paying for the extremely costly but essential clinical testing required for the Food and Drug Administration before a drug may be marketed. The witnesses stressed, because of the thousands of untested compounds awaiting further development and testing, that private industry is most hesitant to undertake the testing of these compounds without patent protection—protection which is lacking where the Government takes full rights to patents covering these compounds. However, when it appears that extensive further development is not necessary to achieve utilization, or that the cost of further development needed will be, or is likely to be, borne by either the Government or by industry without exclusive rights, then clearly the public interest is best served by Government acquisition of principal rights to contract inventions, and section 4(a)(2) of the bill so provides. A perfect example of a proper application of this section would be in the case brought several times to the attention of the Senate regarding the development of a blood test kit for phenylketonuria (PKU) which was developed under a grant supported by the National Institutes of Health. If an identical case were to arise under the provisions of this bill, the Government would be required to take principal rights to all inventions, and the reporting provisions and safeguards would require these inventions to be reported promptly to the Government.

The Government conducts massive research and development programs in entirely new fields of science and technology, fields which in the future may be vitally important to our economy. It is in these areas where there is a possibility that affording a contractor exclusive rights could lead to his being placed in a preferred or dominant position in the field. Accordingly, where the contract falls within a new field of science or technology developed primarily at Federal expense and the contractual effort is of a scope sufficient to raise the danger of anticompetitive effects if exclusive rights were accorded to the contractor, the Government must acquire title to contract inventions under section 4(a)(3) of the bill.

Finally, contracts for the operation by the contractor of a Government-owned plant, or solely for the direction and control of the work of other contractors, are of such a type that equitable considerations favor Government acquisition of title, and this is required by section 4(a)(4).

Recognizing that there occasionally will be situations which fall within one of the four subsections of section 4(a) in which it may not be in the overall public interest for the Government to insist upon principal rights to resulting inventions, this section has provisions which permit the agency head to grant to the contractor rights greater than the nonexclusive license specified in section 3, either at the time of contracting or upon disclosure of a particular invention, in any one of three situations. The first is where the actual or anticipated financial contribution of the Government to the making and perfecting of the invention has been, or is expected to be, less than the actual or anticipated contribution of the contractor or other persons associated with the contractor. Typically intended to be covered under this criteria is the type of contracting situation described where the contractor has an ongoing area of research which is of particular interest to the Government, and the Government, with a relatively minor contribution, desires to obtain the benefits of the earlier privately developed research.

The second criteria covered is where the granting of such rights to the contractor or persons associated with the contractor is more likely to accelerate or assure the development, and thereby the availability for public use, of inventions which will need the additional expenditure of private risk capital to bring the invention to the point of practical application and use. The third criteria is where other equities exist in favor of the contractor, and the granting of such rights would be consistent with the public interest. One example might be where a contractor has conceived and nearly completed work on an invention and filed a patent application, all at its own expense, but the final work under the contract is likely to reduce the invention to the point of commercial application.

These three categories which permit the contractor to acquire rights greater than a nonexclusive license are included to provide the Government agencies with the necessary degree of flexibility, which substantially all agencies appear to desire.

Where the allocation of rights is deferred until the invention is reported to the contracting agency, section 4(c) (1) to (4) provides that the Government would normally acquire principal rights to inventions which are—

(1) Directly related to programs designed to provide items for public use;

(2) Directly related to public health, welfare, or safety; or

(3) Likely to permit the contractor to acquire a dominant position in a field largely supported by the Government.

3. Government license and march-in rights

Just as there are situations where the public interest requires that the Government normally acquire principal rights to contractor inventions, there are other situations where it is in the public interest for the contractor to retain such rights provided adequate controls and safeguards are acquired by the Government. This conclusion is dictated, first, by the need of the Government to attract the un-

restrained cooperation of industry and to encourage private concerns to freely apply their most advanced, privately developed background and experience, and their most creative minds, to Government research programs. Second, the essential objective of assuring that new technology resulting from Government research programs is disseminated and utilized as widely as possible requires that incentives be provided in appropriate cases to encourage private concerns to assume the risk and expense often connected with the adoption of new technology. To place the discussion of each of these factors in proper context, it is important to understand clearly the nature and scope of the rights and controls which the Government must always retain when principal rights to an invention are accorded a contractor.

The rights which the Government must always acquire in a contract invention whenever principal rights are retained by the contractor are spelled out in section 3 of the bill. Section 3(b)(3) reserves to the Government "an irrevocable, nonexclusive, nontransferable, royalty-free license for the practice of each such invention throughout the world, by or on behalf of the United States." This license extends to State and municipal governments, and if the agency head so requires, to foreign governments pursuant to treaties or other agreements. This Government license is essential in insuring that the Government and its contractors working on its behalf will have free access to all inventions made under Government contracts.

Equally important are the "march-in rights" secured in section 3 of this bill which guarantee that in no event may the exercise of discretion by an agency lead to results inconsistent with the purposes of the bill. Because of these controls, whenever a contractor acquired principal rights to an invention, the head of the sponsoring agency retains the right to license or compel the contractor to license other persons to practice the invention—

(1) If the contractor fails to take effective steps within 3 years after issuance of a patent covering the invention to work the invention and make its benefits reasonably accessible to the public; or

(2) If the agency head determines that the public health, safety, or welfare requires such action; or

(3) If the public interest would otherwise suffer unless such licenses were granted.

Regarding the first of these, since a major purpose of the bill is to define a national policy to promote the utilization of inventions resulting from Government contracts, in order for a contractor to retain the full benefits of being accorded principal rights in an invention he must take effective steps within a reasonable time to develop the invention and make its benefits reasonably accessible to the public.

Similarly, because of the overriding public interest in inventions related to the public health, safety, or welfare, the bill, under the second basis for compulsory licensing, requires that a contractor's rights in any invention be subject to the right of the agency head to insure that any invention be used to the maximum extent possible to fulfill public health, safety, or welfare requirements.

The third basis for compulsory licensing is included in the bill so that there is no possible way in which the public interest could suffer by the allocation of principal rights to a contractor. The importance of this provision is apparent. It harmonizes, on the one hand, the desirability of according a contractor principal rights to his inventions

in certain cases and, on the other hand, a legitimate concern that such action could perhaps produce undesirable results in isolated cases.

In addition to spelling out the grounds on which the contractor may be compelled to license an invention resulting from a Government contract, section 3 of the bill provides that the contractor will forfeit all rights he may have in any invention made under a contract—

(1) If he fails to render a prompt disclosure of the invention to the sponsoring agency; or

(2) If, in an appropriate antitrust proceeding, there is a final conclusion that the patent covering such an invention had been used for an unlawful purpose in restraint of trade.

Finally, under section 3(b)(7) of the bill a contractor must include in any patent covering an invention made under a Government contract a statement specifying that the invention is subject to the provisions of the bill. This will provide notice to the public that the "march-in rights" apply to the patent. And under section 3(b)(10) whenever a contractor retains principal rights to an invention he must report upon request to the sponsoring agency the commercial use that is being made or intended to be made of the invention.

4. The need for exclusive rights

Throughout the hearings of the Patents Subcommittee, witnesses placed great emphasis on the role that exclusive rights can play and have played in stimulating private investment in developing and marketing inventions resulting from Government research and development contracts. The point was repeatedly made that when an undeveloped invention, not suitable for immediate commercial use, is made freely available to all, no one is willing to risk the necessary expense to develop the invention to a point where it is suitable for commercial use. While this is by no means true in every case, there are instances in which the point is valid.

The National Aeronautics and Space Administration, for example, reported a number of cases where a NASA allocation of exclusive commercial rights to a contractor resulted in the transfer of a space-related invention to the civilian economy. In one instance, the Ball Bros. Research Corp., of Boulder, Colo., invested more than $25,000 of company funds to improve the versatility of a temperature transducer developed under a NASA contract for use in a satellite to make this transducer more adaptable to commercial applications. This company-sponsored program resulted in the development of a significantly improved version of the original invention and in an anticipated reduction from $200 to $100 in the unit price of the commercial model.

As of January 1, 1966, Ball Bros. have enjoyed commercial sales of the improved transducer totaling over $20,000. An official of the company reported to NASA:

> In the absence of obtaining title to the invention, petitioner would have little or no incentive for investing its own funds in development work of the above type (that necessary to develop and apply the invention to commercial products). * * * The recovery of these development costs would simply be too risky.

In a similar case, the Geophysics Corp. of America, a small business concern located in Bedford, Mass., invested $15,000 of its own funds in improving a vacuum gage it had developed for space experiments

under a NASA contract. As of 1965, commercial sales of products incorporating this invention total in excess of $150,000, and the Government has obtained a royalty-free license in an improvement in the invention made by the contractor during the development program designed to adapt the invention to commercial applications. The importance of exclusivity in this case is suggested by the statement of Dr. Murray Zelikoff, vice president of GCA, in a report to NASA dated January 13, 1965:

> Had the waiver not been granted in waiver case W–167, GCA and Vacuum Industries, Inc. (a subsidiary of GCA) would not have attempted to develop this invention into a marketable product. This decision was based on the following factors: The ionization gage developed for NASA was required to meet such stringent requirements as to mechanical performance (for use in various space vehicles) as to render it too expensive for commercial purposes; therefore, expenditures of development funds from company sources was necessary in order to reduce the invention to a marketable product, but this development expense would only be justified if GCA were assured of patent protection sufficient to enable it to have a reasonable degree of assurance that the development funds so expended could be recovered by commercial sales of the product.

As the Tennessee Valley Authority stated in its comments on the bills:

> Getting an invention into productive and beneficial use, which is the ultimate objective, cannot be achieved simply by giving notice of the invention's existence to people or firms having a possible interest in it.

Typical of the testimony presented by universities on this point is the statement of the American Council on Education:

> The colleges and universities regard the broad and flexible approach proposed in S. 1809 as greatly preferable to a policy of assigning to the Government all rights to all inventions at the time of contracting. We believe that in many cases inventions would not reach the civilian economy if reliance were placed on a kind of mail-order catalog of available new product ideas. Frequently aggressive search is required to find someone willing to devote the energy and the additional captial to the task.

On the basis of its study, the committee concludes that permitting contractors to retain exclusive commercial rights to inventions made under Government contracts in appropriate cases can provide a positive and important incentive to the ultimate commercialization of contract inventions. And it should be stressed here that in any instance where principal rights to an invention are retained by a contractor and this desired commercialization does not result within 3 years after a patent issues on the invention, under the "march-in rights" the exclusivity is removed and the contractor may be compelled to license others to practice the invention.

5. Allocation of rights at the time of contract

As discussed in the section immediately preceding the present one, there are instances where the public interest is best served by retention by the contractor of principal rights in contract inventions. This is so since the incentives of principal rights can be brought to bear as a positive factor on every part of the Government-contractor relationship from acceptance of the contract through application to the contract work of the very best the contractor has to offer, and on through the making, identifying, and reporting of inventions and ultimately to the arduous efforts often necessary to commercialization of inventions after the Government efforts are completed.

Realizing the important roles that according principal rights to the contractor could play, there remains the most difficult problem of deciding upon the stages in the procurement cycle where the allocation of rights to inventions should be made.

It has often been urged that the Government should never accord principal rights to contractors until the invention in question has been fully identified and reported to the contracting agency. The reason invariably presented for urging this approach is that unless the Government knows the precise nature of an invention, it can never be certain that it is not placing an unwarranted and unwise monopoly in the hands of the contractor.

The argument in support of this position that allocation of rights should await invention reporting rests on a preoccupation with the supposed dangers of leaving principal rights with contractors—dangers which, in the view of the committee, are avoided by the safeguards and controls discussed in the preceding section of this report. Further, the argument overlooks two controlling facts which should be considered. First is the fact that often in contracting for research or development the Government is merely asking the contractor to continue work already underway at private expense, to build upon the contractor's existing know-how, expertise, and commercial position. The second fact is the critical impact that the creation of new technology, its development and widespread use can have upon this Nation's status in the world as well as on the health and well-being of its citizens at home.

Retention of exclusive rights in an invention can stimulate the contractor to make the investment of capital and labor needed to develop the invention to marketable form, and this is true even if exclusivity is obtained only after the invention is reported. But a decision to allocate principal rights to the contractor at the time of contracting can act as a much greater incentive, since assurances in advance that commercial exclusivity is available can spur acceptance of Government contracts in the first place, application to work of the best commerical expertise available to the contractor, and conscientious efforts to accomplish the all-important step of identifying and reporting inventions. None of these steps receive any positive incentive from allocation of rights after reporting. Yet, as stated by NASA Administrator Webb during the hearings of the Patents Subcommittee:

> For NASA to succeed in its missions, we urgently need the unrestrained cooperation of wide segments of industry. Some 20,000 contractors, prime and sub, are now at work in a wide variety of technologies. It has been my experience that few factors discourage a contractor's unrestrained ap-

plication of his best talent to a Government contract more than a patent policy which creates uncertainty and which causes him to fear that his commercial status based on a proprietary position he has already achieved, will be jeopardized.

The Department of Defense, in commenting upon the bills before the Patents Subcommittee, also stressed the importance of attracting industry's best, most advanced private developments by stating:

> * * * Department of Defense research and development contracts are awarded to those organizations which have the highest competence in the specific field of science or technology involved. This means that in most cases the contractors and subcontractors chosen will be those which have acquired their background skills and knowledge for application in their own commercial program. It is essential to the success of the defense mission that these skills and knowledge be readily available to the Department. It is equally essential that such firms feel free to bring their new ideas forward at the earliest time, not only after contract performance has begun but before contracts are ever awarded.

It seems clear that permitting contractors to know that they will have exclusive rights to resulting inventions when contracts are entered into will have several beneficial effects. First, as stated above, it will encourage corporations to freely apply their privately developed background without fear of losing all rights to the results of this work to their competitors. The mere fact that a contractor may hope to be able to receive exclusive rights after an invention has been identified certainly is an ineffective incentive to a private corporation when such a decision is solely within the discretion of the Government agency, and does little to provide definite incentives for reviewing the results of research work to anticipate possible applications of it. Mr. Mark Owens, Jr., patent administrator of the University of California, exemplified this situation by testifying that the university recently increased the incentives to the people performing research on behalf of the university, which was accompained with a marked increase in the number of inventions being disclosed to the university.

With these factors in mind, the committee concludes that contractual situations should be defined in which the contractor should be accorded principal rights in his inventions at the time of contracting, retaining appropriate safeguards, as discussed above. Section 4(b) of the bill defines the three situations where this is generally the case.

Whenever a contract was not of a type defined in section 4(a) of the bill, where the Government should normally acquire principal rights to inventions, the contracting agency should then consider whether the contract is of a type defined in section 4(b). The three types of contracts defined in section 4(b) may be briefly described as contracts in a field of technology in which the contractor has background expertise and know-how directly applicable to his established private commercial product line, and contracts with small businesses and nonprofit organizations which have acceptable programs designed to achieve public realization of the benefits of inventions.

Deciding upon the allocation of rights at the time of contracting for work in fields relating to the commercial line of the contractor is

important in obtaining the best work of such contractors. Allocation of rights at the same time to small businesses and nonprofit institutions with effective plans for commercialization will strengthen these important segments of private enterprise and enable them to better continue their useful roles in the national economy.

6. Uniform rules and regulations

Section 5(a) of the bill authorizes the President to issue such rules of regulations as may be necessary or desirable to carry out the provisions of this legislation. Some Government-wide regulations will be necessary to secure consistent application of this legislation throughout the Government.

The Patent Advisory Panel of the Federal Council for Science and Technology has served a useful function in developing common guidelines for the implementation of the 1963 Statement of Government Patent Policy. The necessity for such a body will continue after the legislation becomes effective.

7. Judicial Review

Section 5(d) of the bill is intended to give judicial review by trial de novo in the U.S. district court of all final determinations made after the execution of a contract by an agency head, or his authorized designee, which affect rights in inventions made under the contract.

This section is not intended, however, to provide judicial review of decisions made by an agency head, or his authorized designee, as to the type of patent clause that shall be included in a contract.

Committee Conclusion

For the foregoing reasons the committee recommends that the bill S. 1809, as amended, be favorably considered.

INDIVIDUAL VIEWS OF MESSRS. HART, BURDICK, AND TYDINGS

We conclude that enactment of S. 1809 would be worse than no action by Congress on patents in the research and development contract field.

The subcommittee work and study which produced this bill was undertaken to provide a uniform patent policy operating in the public interest in connection with Government-financed research.

But S. 1809 does little for uniformity and freezes into law the very conditions we set out to correct, including the giving away of patent rights developed at public expense.

Just what, as we see it, would this bill do?

First, in the great majority of R. & D. contracts it would give contractors all property rights to inventions financed by public funds.

None of us would consider voting taxpayers' funds for the building of a bridge only to present it as a gift to some contractor who could begin to charge a toll of all who use it. Yet S. 1809 would have this result with inventions.

Second, contractors would be given these rights at a time when no man alive could possibly know the nature, economic importance, or other characteristics of the product which would be developed.

Would the Congress consider for one moment giving the Secretary of Interior power to sell mineral rights in public lands without knowledge by the Secretary of the nature, kinds, and amounts of minerals in the land? Yet, S. 1809 would allow analogous actions.

Third, the bill grants such broad discretion to each agency head, largely without legislative guidelines, that no uniformity of interpretation and application of its provisions can be expected.

In fact, we can expect a continuance of exactly the same situation we have today. Thus, the developers of the aerosol bomb, frozen orange juice, and flame-resistant cotton found that because they were dealing with the Department of Agriculture they could obtain licenses under the product patents—but no exclusive rights. On the other hand, contractors performing research for the Defense Department generally can secure exclusive rights to inventions of great commercial value. Indeed, one company acknowledged that several of the inventions to which it had obtained title were so significant that they could create an entire new industry. The National Aeronautics and Space Administration adheres to a policy which, though distinctive, savors strongly of that used by the Defense Department. The Atomic Energy Commission, by contrast, generally takes title to inventions made by its research performers. What we are confronted with, therefore, is a vast range of discordant policies. Will this bill harmonize them? In our view, it will not. By repealing the title-retention policies now incorporated in several existing statutes (including the AEC Act), it would only add to the confusion—erring, though, on the side of giving away patents to contractors who might not be entitled to them under existing law.

As we consider this bill we should remember that no one has any inherent right to a patent.

This is the creature of statute.

The Constitution grants Congress the power to give these protections in article I, section 8, clause 8. However, this grant of power is also a limitation of power. The Supreme Court recognizes that the dominant purpose of the patent system is the social gain which flows from an inducement to the inventor rather than a natural right to his discovery.

As stated in *Graham* v. *John Deere Co.*, 86 S. Ct. 684 (1966):

> The grant of an exclusive right to an invention was the creation of society—at odds with the inherent free nature of disclosed ideas—and was not to be freely given.

When and under what circumstances then is the Government justified in turning over to private control a patent monopoly created at public expense?

It should come as no surprise that the circumstances which we see as acceptable are those outlined in our bill—S. 2715.

Briefly, those would be—

1. The right to inventions made under R. & D. contracts should remain in the Government, at least until full information on the nature and potential of the invention is known.

2. When the nature and potential of the invention is known, granting of a patent monopoly might be acceptable for a limited time and under limited circumstances where necessary to induce a company to make further expensive development of the invention.

3. The Congress should establish reasonable guidelines for agency heads in exercising their discretion in disposing of patent rights.

4. Uniformity of interpretation and action by agency heads should be further aided by a review system in the executive branch. As a basic rule, however, what the Government pays for should belong to the Government.

S. 1809 is based partly on the theory that the favoring of contractors with patent rights to inventions made under Government-financed R. & D. contracts will serve best the social purpose inherent in the patent laws inducement to inventors to develop their ideas. However, this bill does not reward the inventor but the contractor. Invention is the product of the ingenious brain of one human being. He may be assisted by others in carrying out his conception of the invention. But it is his ingenuity which the Constitution authorizes Congress to reward as a social gain, not that of the Government contractor.

Patent property and its incidence depend on the statutes (*Crown Die & Tool Co.* v. *Nye Tool & Machine Works*, 43 S. Ct. 254 (1923); *Kronner* v. *U.S.*, 110 F. Supp. 730 (1953)). Patents shall have the attributes of personal property (title 35, sec. 261, United States Code). But these property rights belong to the inventor and no one else unless assigned or transferred by him. It is doubtful that Congress, under these limitations, could grant such rights to anyone other than the inventor.

This proposed legislation deals not with the choice between the rights of the inventor and the Government; it deals only with the patent property as between an R. & D. contractor and the Government. It pays or provides no reward to the inventor. The contractor by virtue of the R. & D. contract—not by virtue of the patent laws—takes both the profits from the contract and the patent property resulting from performance of the contract. The bill, of course, is based on the assumption that the contractor will require his employees

to assign to him inventions made while working on the R. & D. contract program.

It has been industry's contention that as they pay the inventor, they should get the profits of his labor. The same standard should apply then when the public, through tax dollars, makes the expenditures for R. & D. contracts.

We have supported the research and development programs which have so greatly increased in recent years. But we believe the products of those expenditures belong to all the people just as do the natural resources a part of the public lands. The fruits from R. & D. expenditures should not be locked up in Government-created monopolies except as this may be necessary for the social gain, to result in the development of new knowledge.

When and under what circumstances is the Government justified in turning over to a private control a patent monopoly created at public expense? Although the knowledge disclosed in a patent is of general benefit in promoting the arts, the direct benefit flows from the putting to use of the process or making available the product. Therefore, it may be desirable to grant a patent monopoly for a limited time to induce further private expenditures where expensive development is necessary to make the process or product available. Demand for its use may be small and yet a large expense for further development may be necessary. On the other hand, the market may be very large and justify a large expenditure without exclusive rights. If others are willing to make the invention freely available to the public without monopoly rights, the Government has no justification for denying them the opportunity. The nature of the market, the relationsip of the invention to the market, its effect on existing and future competition are among facts relating to the public interest which must be considered. But certainly none of these facts can be determined at the time the R. & D. contract is executed—the precise time S. 1809 authorizes the agency to retain or give away the Government's rights to these inventions.

Giving to the R. & D. contractors all patent property at the time of making the contract—as S. 1809 does—is blind action. At that time agency heads can only grope in the dark.

In addition, S. 1809 lacks meaningful guidelines. It allows agency heads almost unlimited discretion. Conceding that there should be some flexibility in such legislation, hence some discretion left to agency heads, there also should be means to assure reasonably uniform interpretation and application of the act. Otherwise, each agency head will be able to do as he wishes and justify his action on his interpretation of the law—which is today's situation.

In contrast, our bill, S. 2715, provides definite and specific guidelines not merely a listing of different types of R. & D. contracts categorized according to the principal purpose of the contract as are subsections (a), (b), and (c) of section 4 of S. 1809.

In disposing of patent rights we are dealing with inventions themselves; the purpose of the contract has little relevance. In many instances there may be no relevance between the purpose of the contract and the nature of the invention. Just one example: the contract was to search for and develop a new industrial chemical; the resulting invention was a chemical useful as a drug. Research frequently leads to this result.

In S. 2715 specific facts and determinations must be arrived at before the agency head is justified in exercising his discretion. These are applicable to the invention disclosed instead of to the principal purpose of the R. & D. contract. This approach, we believe, makes better sense than that of S. 1809.

The categories of contract purposes as provided in S. 1809 are so vague and difficult to determine that the bill recognizes in subsection (d) of section 4 that the parties may not be able to make such determination until after disclosure of the invention. It also admits the invention may not fall within the purpose of the contract in either of the categories (a), (b), or (c) in section 4.

Subsection (d) of section 4 rather supports our belief that the determination of rights growing out of the invention can and should be precisely determined and acted upon only after the disclosure of the invention, and under guidelines applicable to the invention, rather than by general categories of purposes of R. & D. contracts.

In addition to the need for guidelines, some administrative review board is desirable. Such a board would review agency decisions before court action. The review board should interpret the act and consider inconsistent actions by agency heads to provide uniform interpretations and consistency of action. It should also review possible erroneous actions in particular cases.

Nothing in S. 1809 meets this problem. The President may issue guideline regulations but is not required to do so. No specific authority is given to agency heads to adopt regulations although such action may be inferred. Nor is there any requirement as to uniformity of regulations. There can be as many different interpretations of the act and direction of actions under it as there are contracting agencies.

President John J. Kennedy issued a patent policy directive to all agencies seeking to bring uniformity out of the widely varying practices of different contracting agencies. The effectiveness of his effort to bring order out of chaos has been largely nullified by the widely varying and frequently divergent interpretations and applications by agency heads. Each seems to interpret it in such manner as to justify the end he seeks to reach. In our opinion this is not a satisfactory solution nor do we believe the public interest is served. Nor would S. 1809 improve on the present situation.

It would appear to freeze into law the unsatisfactory conditions which now exist under the Presidential directive. We oppose legislative sanction of present conditions.

Indeed, only recently a special committee of the Federal Council on Science and Technology began collecting the kind of information that will permit an intelligent appraisal of the 1963 guidelines. What the Senate is being asked to do, therefore, is enact into law unproven and untested policies and procedures to govern the disposition of rights in the thousands of inventions spawned by the $16 billion annual Federal research expenditures. This is to ask us to legislate in the dark. There is no great urgency in adopting patent policy legislation. Particularly where it is clear that the House will not act this year on patent legislation, it would be better to wait at least another year, to gather additional information, and then determine what course should be followed. The enactment of legislation, conceived in haste and considered in the mistaken belief that a statute is urgently needed, would be worse than the adoption of no legislation.

The public interest we believe would not be served nor protected by passage of S. 1809 as reported.

ADDITIONAL INDIVIDUAL VIEWS OF MR. TYDINGS

I concur in the views of Senators Hart and Burdick expressed in this report. I believe enactment of S. 1809 would be worse than no law at all.

I agree with all the members of the Judiciary Committee that legislation is advisable to bring a greater measure of rationality and uniformity into the diverse and sometimes conflicting patent policies presently practiced by the various Federal Government agencies. But I do not agree with the majority of this committee that the way to bring more rationality and uniformity into the present system is to freeze that very system into statute. Yet the advocates of S. 1809 proclaim its principal purpose to be just that.

The principal argument advanced in favor of freezing into law the present inadequate, un-uniform, and often-conflicting Federal agency patent policy is to end the piecemeal legislation of that patent policy on a program-by-program basis. I think an end to piecemeal patent policy amendment is neither a likely result nor even a reasonable expectation from Senate passage of S. 1809 because:

First: The provisions of S. 1809, if enacted, would be just as vulnerable to piecemeal, program-by-program amendment as is the present part statutory, part administrative Federal agency patent policy.

Second: Passage of S. 1809 will by no means reduce the likelihood of piecemeal amendment of Federal agency patent policy. It will most likely actually increase the likelihood that opponents of the policy embodied in S. 1809 will seek to circumvent it at every juncture at which an argument can be made that the public interest is better served by a more publicly oriented patent policy.

Third: S. 1809 faces an uncertain future in the House, and will certainly not be acted upon at all until well into the next session of Congress.

Rather than providing an effective way to end piecemeal patent policy amendment, Senate passage of S. 1809 is just as likely to prove a futile and costly delay in achieving a rational Government-wide patent policy. By meeting none of the objections which have led to piecemeal amendment of the present Federal agency patent policy system, S. 1809 is both uncertain of final passage by Congress and doomed to the very kind of case-by-case amendment which it is put forward to end.

It would be far more prudent for the Senate to seek a patent bill which the critics and amenders of present Federal agency patent policy can accept without feeling the need to continue to make case-by-case amendment of that policy. S. 1809 merely freezes into law the very policy which has frequently inspired such amendment.

INDIVIDUAL VIEWS OF MR. KENNEDY OF MASSACHUSETTS

Over the last 12 years, the U.S. Government has spent more than $100 billion on scientific research. This year we will spend more on scientific research than the Federal Government spent during the entire 19th century. The stimulus of this investment has so accelerated the rate of our technological advance as to dramatically affect the life of every American. It has brought about incredible advances in communication and transportation, in new drugs and medical techniques; it has resulted in the introduction of literally thousands of new products for the home and business.

Because of the tremendous impact that Government-sponsored research can have on our society, it is apparent that we must have a Government-wide policy for dealing with the thousands of inventions discovered by private contractors in Government-sponsored research—a policy which insures that the many potentially beneficial inventions spawned by our multimillion-dollar research efforts are put to prompt and effective public use, on terms which are fair to the public, and yet under conditions which afford an incentive to the contractor to devote to this task the resources often necessary to achieving prompt use.

There is also broad agreement on the need to enact at this time general legislation on this subject in order to end the present practice of legislating piecemeal patent policies which vary widely from agency to agency and even from program to program.

S. 1809 may not be a final answer to the complex problems inherent in formulating a Government-wide patent policy which strikes the delicate balance between public and private interests in new scientific discoveries, but it follows those procedures and employs those criteria with which both Government and industry are most familiar. Both have extensive experience operating within its framework, as it was originally formulated in the patent guidelines issued by the White House in 1963. It is, therefore, a known quantity and, on the basis of the information presently available, it seems to be an approach which has worked reasonably well.

Consequently, I think it would be unwise to shift at this time to a radically different approach to Government patent policy, which would disrupt well-established procedures, without a sound empirical basis for favoring such an approach over that presently embodied in the White House guidelines and in S. 1809. This is not to say that S. 1809 in its present form cannot be improved. I consider it extremely important that any legislation in this area contain adequate safeguards to protect the Government's interest. I believe that provisions of S. 1809 such as sections 4(a) (1)–(4) along with the provisions establishing the Government's "march-in" rights do provide the basic machinery for insuring protection of the public interest.

However, when this bill reaches the Senate floor, I intend to offer

a number of amendments designed to expand and clarify the rights of the Government and thereby emphasize the public interest aspects of the legislation.

Moreover, to achieve the objectives of the bill, its provisions must be conscientiously administered by the sponsoring agencies if we are to have protection of the public interest in fact as well as in law. For example, I believe that NASA has made a conscientious effort to insure that research discoveries are put to expeditious public use on fair and equitable terms. Unfortunately, there is evidence that not every sponsoring agency has demonstrated the same sort of care and concern for the protection of the public interest.

It is therefore incumbent on the Congress both to make clear its intent that its guidelines be followed, and to carefully oversee the administration of these provisions by the agencies.

Clearly, our responsibility in this area does not end when S. 1809 is enacted into law. Further experience under this approach may indicate that changes in our patent policy are essential. While the issues underlying patent policy have been studied in depth by Senator McClellan's subcommittee and discussed fully by this committee, there is a lack of empirical data regarding such factors as (1) the effects of patent policy on invention utilization and on commercial competition, and (2) the role such policy plays in bringing the best efforts of industry and universities to bear in Government programs. A committee on Government patent policy of the Federal Council for Science and Technology is presently engaged in a comprehensive study of this question designed to develop the kind of information which will help us reappraise our position. If the results of this study suggest that changes in S. 1809 are justified or that an entirely new approach should be taken, I would not hesitate to introduce appropriate legislation.

In addition, I believe Congress should make specific provisions to oversee the workings of S. 1809 in actual practice. For that reason I intend to introduce an amendment which would require the administration, in providing the Congress annually with extensive statistical information on the operation of this policy, also to furnish an appraisal of the effects of the act on the public interest, and recommendations for changes required to better serve the public interest in view of the data regarding such operations.

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CHANGES IN EXISTING LAW

In compliance with subsection (4) of rule XXIX of the Standing Rules of the Senate, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman):

AGRICULTURAL RESEARCH

Act of August 14, 1946 (60 Stat. 1082, 1086, 1090; 7 U.S.C. 427i(a))

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SEC. 10. (a) * * *

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* * * [Any contracts made pursuant to this authority shall contain requirements making the results of research and investigations available to the public through dedication, assignment to the Government, or such other means as the Secretary shall determine.]

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SEC. 205(a) * * *

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* * * [Any contract made pursuant to this section shall contain requirements making the result of such research and investigations available to the public by such means as the Secretary of Agriculture shall determine."]

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HOUSING RESEARCH

Act of August 10, 1948 (62 Stat. 1276 as amended by the Act of July 15, 1949, 63 Stat. 413, 431; 12 U.S.C. 1701e(a))

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SEC. 301(a) * * *

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* * * [All contracts made by the Administrator for technical research and studies authorized by this or any other Act shall contain requirements making the results of such research or studies available to the public through dedication, assignment to the Government, or such other means as the Administrator shall determine.]

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NATIONAL SCIENCE FOUNDATION

Act of May 10, 1950 (64 Stat. 149, 154; 42 U.S.C. 1871)

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[PATENT RIGHTS]

[SEC. 12. (a) Each contract or other arrangement executed pursuant to this Act which relates to scientific research shall contain provisions governing the disposition of inventions produced thereunder in a manner calculated to protect the public interest and the equities of the individual or organization with which the contract or other arrangement is executed: *Provided, however,* That nothing in this Act shall be construed to authorize the Foundation to enter into any contractual or other arrangement inconsistent with any provision of law affecting the issuance or use of patents.

[(b) No officer or employee of the Foundation shall acquire, retain, or transfer any rights, under the patent laws of the United States or otherwise, in any invention which he may make or produce in connection with performing his assigned activities and which is directly related to the subject matter thereof: *Provided, however,* That this subsection shall not be construed to prevent any officer or employee of the Foundation from executing any application for patent on any such invention for the purpose of assigning the same to the Government or its nominee in accordance with such rules and regulations as the Director may establish.]

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ATOMIC ENERGY ACT

Act of August 30, 1954 (68 Stat. 919, 944; 42 U.S.C. 2182)

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[SEC. 152. INVENTIONS CONCEIVED DURING COMMISSION CONTRACTS.—Any invention or discovery, useful in the production or utilization of special nuclear material or atomic energy, made or conceived under any contract, subcontract, arrangement, or other relationship with the Commission, regardless of whether the contract or arrangement involved the expenditure of funds by the Commission, shall be deemed to have been made or conceived by the Commission, except that the Commission may waive its claim to any such invention or discovery if made or conceived by any person at or in connection with any laboratory under the jurisdiction of the Commission as provided in section 33, or under such other circumstances as the Commission may deem appropriate. No patent for any invention or discovery, useful in the production or utilization of special nuclear material or atomic energy, shall be issued unless the applicant files with the application, or within 30 days after request therefor by the Commissioner of Patents, a statement under oath setting forth the full facts surrounding the making or conception of the invention or discovery described in the application and whether the invention or discovery was made or conceived in the course of, in connection with, or under the terms of any contract, subcontract, arrangement, or other relationship with the Commission, regardless of whether the

contract or arrangement involved the expenditure of funds by the Commission. The Commissioner of Patents shall forthwith forward copies of the application and the statement to the Commission.

["The Commissioner of Patents may proceed with the application and issue the patent to the applicant (if the invention or discovery is otherwise patentable) unless the Commission, within 90 days after receipt of copies of the application and statement, directs the Commissioner of Patents to issue the patent to the Commission (if the invention of discovery is otherwise patentable) to be held by the Commission as the agent of and on behalf of the United States.

["If the Commission files such a direction with the Commissioner of Patents, and if the applicant's statement claims, and the applicant still believes, that the invention or discovery was not made or conceived in the course of, in connection with, or under the terms of any contract, subcontract, arrangement, or other relationship with the Commission entitling the Commission to take title to the application or the patent, the applicant may, witnin 30 days after notification of the filing of such a direction, request a hearing before a Board of Patent Interferences. The Board shall have the power to hear and determine whether the Commission was entitled to the direction filed with the Commissioner of Patents. The Board shall follow the rules and procedures established for interference cases and an appeal may be taken by either the applicant or the Commission from the final order of the Board to the Court of Customs and Patent Appeals in accordance witn the procedures governing the appeals from the Board of Patent Interferences.

["If the statement filed by the applicant should thereafter be found to contain false material statements any notification by the Commission that it has no objections to the issuance of a patent to the applicant shall not be deemed in any respect to constitute a waiver of the provisions of this section or of any applicable civil or criminal statute, and the Commission may have the title to the patent transferred to the Commission on the records of the Commissioner of Patents in accordance with the provisions of this section.]

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NATIONAL AERONAUTICS AND SPACE

Act of July 29, 1958 (72 Stat. 426, 429, 431; 42 U.S.C. 2473)

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FUNCTIONS OF THE ADMINISTRATION

"SEC. 203. (a) The Administration, in order to carry out the purpose of this Act, shall—

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(c) 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."

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(72 Stat. 426, 435, 436, 437; 42 U.S.C. 2457).

[PROPERTY RIGHTS IN INVENTIONS]

[SEC. 305. (a) Whenever any invention is made in the performance of any work under any contract of the Administration, and the Administrator determines that—

[(1) the person who made the invention was employed or assigned to perform research, development, or exploration work and the invention is related to the work he was employed or assigned to perform, or that it was within the scope of his employment duties, whether or not it was made during working hours, or with a contribution by the Government of the use of Government facilities, equipment, materials, allocated funds, information proprietary to the Government, or services of Government employees during working hours; or

[(2) the person who made the invention was not employed or assigned to perform research, development, or exploration work, but the invention is nevertheless related to the contract, or to the work or duties he was employed or assigned to perform, and was made during working hours, or with a contribution from the Government of the sort referred to in clause (1), such invention shall be the exclusive property of the United States, and if such invention is patentable a patent therefor shall be issued to the United States upon application made by the Administrator, unless the Administrator waives all or any part of the rights of the United States to such invention in conformity with the provisions of subsection (f) of this section.

[(b) Each contract entered into by the Administrator with any party for the performance of any work shall contain effective provisions under which such party shall furnish promptly to the Administrator a written report containing full and complete technical information concerning any invention, discovery, improvement, or innovation which may be made in the performance of any such work.

[(c) No patent may be issued to any applicant other than the Administrator for any invention which appears to the Commissioner of Patents to have significant utility in the conduct of aeronautical and space activities unless the applicant files with the Commissioner, with the application or within thirty days after request therefor by the Commissioner, a written statement executed under oath setting forth the full facts concerning the circumstances under which such invention was made and stating the relationship (if any) of such invention to the performance of any work under any contract of the Administration. Copies of each such statement and the application to which it relates shall be transmitted forthwith by the Commissioner to the Administrator.

[(d) Upon any application as to which any such statement has been transmitted to the Administrator, the Commissioner may, if the invention is patentable, issue a patent to the applicant unless the Administrator, within ninety days after receipt of such application and statement, requests that such patent be issued to him on behalf of the United States. If, within such time, the Administrator files such a request with the Commissioner, the Commissioner shall transmit notice thereof to the applicant, and shall issue such patent to the Administrator unless the applicant within thirty days after

receipt of such notice requests a hearing before a Board of Patent Interferences on the question whether the Administrator is entitled under this section to receive such patent. The Board may hear and determine, in accordance with rules and procedures established for interference cases, the question so presented, and its determination shall be subject to appeal by the applicant or by the Administrator to the Court of Customs and Patent Appeals in accordance with procedures governing appeals from decisions of the Board of Patent Interferences in other proceedings.

[(e) Whenever any patent has been issued to any applicant in conformity with subsection (d), and the Administrator thereafter has reason to believe that the statement filed by the applicant in connection therewith contained any false representation of any material fact, the Administrator within five years after the date of issuance of such patent may file with the Commissioner a request for the transfer to the Administrator of title to such patent on the records of the Commissioner. Notice of any such request shall be transmitted by the Commissioner to the owner of record of such patent, and title to such patent shall be so transferred to the Administrator unless within thirty days after receipt of such notice such owner of record requests a hearing before a Board of Patent Interferences on the question whether any such false representation was contained in such statement. Such question shall be heard and determined, and determination thereof shall be subject to review, in the manner prescribed by subsection (d) for questions arising thereunder. No request made by the Administrator under this subsection for the transfer of title to any patent, and no prosecution for the violation of any criminal statute, shall be barred by any failure of the Administrator to make a request under subsection (d) for the issuance of such patent to him, or by any notice previously given by the Administrator stating that he had no objection to the issuance of such patent to the applicant therefor.

[(f) Under such regulations in conformity with this subsection as the Administrator shall prescribe, he may waive all or any part of the rights of the United States under this section with respect to any invention or class of inventions made or which may be made by any person or class of persons in the performance of any work required by any contract of the Administration if the Administrator determines that the interests of the United States will be served thereby. Any such waiver may be made upon such terms and under such conditions as the Administrator shall determine to be required for the protection of the interests of the United States. Each such waiver made with respect to any invention shall be subject to the reservation by the Administrator of an irrevocable, nonexclusive, nontransferrable, royalty-free license for the practice of such invention throughout the world by or on behalf of the United States or any foreign government pursuant to any treaty or agreement with the United States. Each proposal for any waiver under this subsection 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 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.

[(g) The Administrator shall determine, and promulgate regulations specifying, the terms and conditions upon which licenses will be granted by the Administration for the practice by any person (other than an agency of the United States) of any invention for which the Administrator hold s a patent on behalf of the United States.

[(h) The Administrator is authorized to take all suitable and necessary steps to protect any invention or discovery to which he has title, and to require that contractors or persons who retain title to inventions or discoveries under this section protect the inventions or discoveries to which the Administration has or may acquire a license of use.

[(i) The Administration shall be considered a defense agency of the United States for the purpose of chapter 17 of title 35 of the United States Code.

[(j) As used in this section—

[(1) the term "person" means any individual, partnership, corporation, association, institution, or other entity;

[(2) the term "contract" means any actual or proposed contract, agreement, understanding, or other arrangement, and includes any assignment, substitution of parties, or subcontract executed or entered into thereunder; and

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

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Provided, however, that subsections (c), (d) and (e) of said section 305 shall continue to be effective with respect to any application for patent in which the written statement referred to in subsection (c) of said section 305 has been filed or requested to be filed by the Commissioner of Patents prior to the effective date of this Act.

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(72 Stat. 426,437; 42 U.S.C. 2458)

CONTRIBUTIONS AWARDS

SEC. 306. (a) Subject to the provisions of this section, the Administrator is authorized, upon his own initiative or upon application of any person, to make a monetary award, in such amount and upon such terms as he shall determine to be warranted, to any person [(as defined by section 305)] for any scientific or technical contribution to the Administration which is determined by the Administrator to have significant value in the conduct of aeronautical and space activities. Each application made for any such award shall be referred to [the Invention and Contributions Board established under section 305 of this Act.] *an Inventions and Contributions Board which shall be established by the Administrator within the Administration.* Such Board shall accord to each such applicant an opportunity for hearing upon such application, and shall transmit to the Administrator its recommendation as to the terms of the award, if any, to be made to such applicant for such contribution. * * *

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COAL RESEARCH AND DEVELOPMENT

Act of July 7, 1960 (74 Stat. 336, 337; 30 U.S.C. 666)

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[SEC. 6. No research shall be carried out, contracted for, sponsored, cosponsored, or authorized under authority of this Act, unless all information, uses, products, processes, patents, and other developments resulting from such research will (with such exceptions and limitations, if any, as the Secretary may find to be necessary in the interest of national defense) be available to the general public. Whenever in the estimation of the Secretary the purposes of this Act would be furthered through the use of patented processes or equipment, the Secretary is authorized to enter into such agreements as he deems necessary for the acquisition or use of such patents on reasonable terms and conditions.]

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HELIUM ACT AMENDMENTS

Act of Sept. 13, 1960 (74 Stat. 918, 920; 50 U.S.C. 167b)

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SEC. 4. The Secretary is authorized to maintain and operate helium production and purification plants together with facilities and accessories thereto, to acquire, store, transport, sell, and conserve helium, helium-bearing natural gas, and helium-gas mixtures, to conduct exploration for and production of helium on and from the lands acquired, leased, or reserved; and to conduct or contract with public or private parties for experimentation and research to discover helium supplies and to improve processes and methods of helium production, purification, transportation, lequefaction, storage, and utilization: [*Provided, however*, That all research contracted for, and sponsored, cosponsored, or authorized under authority of this Act shall be provided for in such a manner that all information, uses, products, processes, patents, and other developments resulting from such research developed by Government expenditure will (with such exceptions and limitations, if any, as the Secretary may find to be necessary in the interest of national defense) be available to the general public: *And provided further*, That nothing contained herein shall be construed as to deprive the owner of any background patent relating thereto to such rights as he may have thereunder.]

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SALINE WATER CONVERSION

Act of Sept. 22, 1961 (75 Stat. 628, 629; 42 U.S.C. 1954)

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SEC. 4. (a) Research and development activities undertaken by the Secretary shall be coordinated or conducted jointly with the Department of Defense to the end that developments under this Act which are primarily of a civil nature will contribute to the defense

of the Nation and that developments which are primarily of a military nature will, to the greatest practicable extent compatible with military and security requirements, be available to advance the purposes of this Act and to strengthen the civil economy of the Nation. The fullest cooperation by and with Atomic Energy Commission, the Department of Health, Education, and Welfare, the Department of State, and other concerned agencies shall also be carried out in the interest of achieving the objectives of this Act.

[''(*b*) *a*. All research within the United States contracted for, sponsored, cosponsored, or authorized under authority of this Act, shall be provided for in such manner that all information, uses, products, processes, patents, and other developments resulting from such research developed by Government expenditure will (with such exceptions and limitations, if any, as the Secretary may find to be necessary in the interest of national defense) be avialable to the general public. This subsection shall not be so construed as to deprive the owner of any background patent relating thereto of such rights as he may have thereunder.]

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ARMS CONTROL AND DISARMAMENT

Act of Sept. 26, 1961 (75 Stat. 631, 634; 22 U.S.C. 2572)

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[PATENTS]

[SEC. 32. All research within the United States contracted for, sponsored, cosponsored, or authorized under authority of this Act, shall be provided for in such manner that all information as to uses, products, processes, patents, and other developments resulting from such research developed by Government expenditure will (with such exceptions and limitations, if any, as the Director may find to be necessary in the public interest) be available to the general public. This subsection shall not be so construed as to deprive the owner of any background patent relating thereto of such rights as he may have thereunder.]

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WATER RESOURCES RESEARCH

Act of July 17, 1964 (78 Stat. 329, 332; 42 U.S.C. 1961c–3)

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[SEC. 303. No part of any appropriated funds may be expended pursuant to authorization given by this Act for any scientific or technological research or development activity unless such expenditure is conditioned upon provisions determined by the Secretary of the Interior, with the approval of the Attorney General, to be effective to insure that all information, uses, products, processes, patents, and other developments resulting from that activity will (with such exceptions and limitations as the Secretary may determine, after consultation with the Secretary of Defense, to be necessary in the interest of the national defense) be made freely and fully available to the

general public. Nothing contained in this section shall deprive the owner of any background patent relating to any such activity of any rights which that owner may have under that patent.]

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APPALACHIAN REGIONAL DEVELOPMENT

Act of March 9, 1965 (79 Stat. 5, 20)

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TITLE III. ADMINISTRATION

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SEC. 302. (a) * * *

[(d) No part of any appropriated funds may be expended pursuant to authorization given by this Act involving any scientific or technological research or development activity unless such expenditure is conditioned upon provisions effective to insure that all information, copyrights, uses, processes, patents, and other developments resulting from that activity will be made freely available to the general public. Nothing contained in this subsection shall deprive the owner of any background patent relating to any such activity, without his consent, of any right which that owner may have under that patent. Whenever any information, copyright, use, process, patent or development resulting from any such research or development activity conducted in whole or in part with appropriated funds expended under authorization of this Act is withheld or disposed of by any person, organization, or agency in contravention of the provisions of this subsection, the Attorney General shall institute, upon his own motion or upon request made by any person having knowledge of pertinent facts, an action for the enforcement of the provisions of this subsection in the district court of the United States for any judicial district in which any defendant resides, is found, or has a place of business. Such court shall have jurisdiction to hear and determine such action, and to enter therein such orders and decrees as it shall determine to be required to carry into effect fully the provisions of this subsection. Process of the district court for any judicial district in any action instituted under this subsection may be served in any other judicial district of the United States by the United States marshal thereof. Whenever it appears to the court in which any such action is pending that other parties should be brought before the court in such action, the court may cause such other parties to be summoned from any judicial district of the United States.]

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Act of October 20, 1965 (79 Stat. 997, 999)

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TITLE II. SOLID WASTE DISPOSAL

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SEC. 204. (a) * * *

[(c) Any grant, agreement, or contract made or entered into under this section shall contain provisions effective to insure that all information, uses, processes, patents and other developments resulting from any activity undertaken pursuant to such grant, agreement, or contract will be made readily available on fair and equitable terms to industries utilizing methods of solid-waste disposal and industries engaging in furnishing devices, facilities, equipment, and supplies to be used in connection with solid-waste disposal. In carrying out the provisions of this section, the Secretary and each department, agency, and officer of the Federal Government having functions or duties under this Act shall make use of and adhere to the Statement of Government Patent Policy which was promulgated by the President in his memorandum of October 10, 1963. (3 CFR, 1963 Supp., p. 238).] * * *

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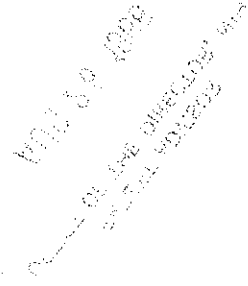

Act of October 20, 1965 (79 Stat. 997, 999)

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TITLE II. SOLID WASTE DISPOSAL

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