

78-143 SPR

GOVERNMENT PATENT POLICY
(The ownership of inventions resulting from federally-funded R & D)

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July 10, 1978

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I. SUMMARY

There are currently two major issues in Government patent policy: (1) the ownership of inventions resulting from federally-funded research and development (R&D); and (2) general revision of the patent laws of the United States. This report deals mainly with the former issue and only touches upon the latter, a large subject in itself, for the sake of completeness.

In regard to the first issue, there are a number of aspects of the ownership of inventions resulting from federally-funded R&D, but these seem to reduce to two major subissues, which are:

- Whether the existing Government patent policy promotes the progress of science, as required by the U.S. Constitution or whether, in fact, Government patent policy has stifled invention and innovation. In general, it has been the Government's policy to retain title and rights to inventions resulting from federally-funded research and development (generally about 50 percent of the Nation's entire R&D expenditure) -- made either by Government contractors or grantees or by in-house Government employees. Significantly, the U.S. Government holds title to about 28,000 such inventions, but only about five percent of these have been used.

- Whether a comprehensive, Government-wide patent policy is required. There is not now such a uniform Federal patent policy--rather, patent policies have been developed and instituted on an agency-by-agency basis.

These subissues include questions like: (1) whether the Government uniformly should take title to inventions derived from federally-funded R&D, thereafter licensing the inventions to potential users; (2) whether such licenses should be exclusive (permitting only one user) or nonexclusive (permitting anyone to license inventions who wants to); (3) whether, like some Government agencies, the Government in general should waive its rights to such inventions, providing that the Government's investment is safeguarded

by the Government's royalty-free use for its own purposes and by "march-in rights" to ensure that if a user does not in fact use the invention, other users may be licensed or the waiver can be terminated; (4) what are the Government's rights in contractor- or grantee-developed patents covering related inventions made by the contractor or grantee before or outside of the contract or grant effort in question ("background patents"); and (5) what are the Government's rights to inventions made by in-house Government employees?

A recently developing area of congressional concern is the action of the General Services Administration in amending Federal procurement regulations to provide for a standard agreement known as an Institutional Patent Agreement (IPA) to permit universities and nonprofit organizations to receive a larger share of the commercial benefits of their federally-funded research.

In regard to the issue of the general revision of the patent laws, there has been considerable congressional interest since about 1952. However, although many bills have been introduced and hearings held since that time, no general patent law revision has been enacted, although a number of bills on specific aspects of patent law have been enacted. In the 95th Congress thus far, no bill for the general revision of the patent laws has been introduced.

II. BACKGROUND

For many years there has been much debate over what the Government's policy should be concerning the ownership of inventions resulting from federally-funded research and development for which patents are sought. It is generally agreed, however, that whatever the policy, it should be one that promotes the utilization of inventions and encourages contractor/grantee participation in Government-sponsored R&D. It is maintained that a Government patent policy that fosters the utilization of inventions and promotes contractor/grantee participation protects the public's investment in research and development, serves the public's interest, and is in keeping with the constitutional directive to ". . . promote Science and the useful Arts." Experience shows, however, that only a small percentage of Government-owned inventions has been utilized. Non-utilization has been attributed to the title-taking policies and the non-exclusive licensing practices of some Government departments and agencies regarding contractor/grantee inventions resulting from federally-funded research and development. It is also held that aspects of Government patent policy inhibit contractor/grantee participation and deter competent and qualified contractors and grantees from seeking Federal R&D contracts. The lack of a uniform Government patent policy, Government title-taking policies, and non-exclusive licensing practices, and the mandatory licensing of background

patents are aspects of the issue that allegedly affect contractor/grantee participation in federally-funded research and development. 1/

The foundation of the American patent system is based on Article I, section 8 of the United States Constitution:

> The Congress Shall Have Power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.

The constitutional directive has defined the purpose and function of the patent system and experience has shown that it is an incentive system which promotes the progress of science and the useful arts. The system provides the incentives to invent, disclose, and commercialize by offering protection to the inventor in the form of lead time. Through the issuance of the seventeen-year patent grant, which excludes others from exploiting for the limited time of the patent, an inventor is permitted lead time to commercialize his invention. Because the patent system is a disclosure system and provides for a concept to be brought to public attention, the system also promotes competition as it stimulates others to find ways to invent around the patent.

1/ Examples of Federal statutes establishing Government patent policy include: Aeronautics and Space Act of 1958, 42 U.S.C. 2457; agriculture, 7 U.S.C. 171, 427i, 1624; air pollution, 42 U.S.C. 7608; Appalachian development, 49 App. U.S.C. 302; arms control research, 22 U.S.C. 2572; coal mine health and safety, 30 U.S.C. 951; coal research, 30 U.S.C. 666; consumer product safety, 15 U.S.C. 2054; energy sources development, 42 U.S.C. 5817; helium gas, 50 U.S.C. 167b; motor vehicle research, 15 U.S.C. 1395; National Science Foundation, 42 U.S.C. 1871; nonnuclear energy research and development, 42 U.S.C. 5908; nuclear research, 42 U.S.C. 2181 et seq.; saline and salt water conversion, 42 U.S.C. 1959d; solid waste disposal, 42 U.S.C. 3253, 6981; TVA, 16 U.S.C. 831R.

It follows that the Government's patent policy (i.e. its policy with respect to the ownership of inventions resulting from federally-funded research and development) should be in keeping with the incentives of the patent system and in accordance with the constitutional directive. Yet, while the patent system is a means for inducing people to invent and commercialize, there are certain aspects of Government patent policy that function to reduce the incentives of the patent system. Critics of Government patent policy maintain that it discourages the utilization and commercialization of inventions, thereby failing "to promote the progress of science and the useful arts."

In order to place these criticisms in the proper perspective, it is necessary to discuss Government patent policy as it relates to the Nation's research and development effort. For over more than a decade the Federal Government has been financing on an average about 50 percent of the Nation's entire expenditures for research and development. A large portion of this Government investment is distributed through grants and contracts to outside (outside of the Federal Government) performers of research and development -- industry, universities and colleges, State and local governments, and other nonprofit institutions. During the course of such federally-funded R&D, several thousand inventions each year are made by contractors and grantees. Generally speaking, it has been the Government's policy to retain title and rights to inventions resulting from federally-funded R&D -- made either by Government contractors or grantees or Government employees who might be performing research and development in the

course of their work for the Government. The Government holds title to about 28,000 such inventions, of which only about five percent have been used. Critics of Government patent policy maintain that the Government's policy with respect to these inventions contributes to this situation. They argue that the lack of uniformity in the patent policies of Government departments and agencies, and the policies with respect to rights in inventions made by Government contractors and grantees and Government employees discourage, rather than promote, invention utilization.

Uniform Patent Policies and Procedures. Over the years the Federal Government has developed patent policies primarily on a subject or an agency-by-agency basis resulting in several different approaches. (See Section III -- Statutory Patent Provisions of Individual Departments and Agencies In U.S. Congress. House. Committee on Science and Technology. Subcommittee on Domestic and International Scientific Planning and Analyses. Committee Print, 94th Congress, 2d session. Washington, U.S. Govt. Print. Off., 1976: 61-85.) It is maintained that the differing missions of the various Government departments and agencies require different patent policies because of the varied kinds of technologies the individual agencies deal with in discharging their responsibilities. Nevertheless, it is generally agreed that some degree of uniformity is desirable in light of the premise that diversity in Government agency patent policies and practices, and administrative burdens associated with this lack of uniformity, deter competent and qualified contractors and grantees. In an attempt to provide some cohesion, President Kennedy issued a Presidential memorandum and statement of Government patent policy on October 10, 1963, and President Nixon issued a revised statement

of Government patent policy on August 23, 1971. President Kennedy's statement describes, in general terms, those conditions under which the Government will take title to patent rights. President Nixon's revision enlarged the authority of an agency to waive title to such rights and to grant an exclusive license under a Government-owned patent. To the extent to which a Government agency is not bound by statute, it is supposed to be guided by these presidential policy statements. These policy statements do not apply, however, to those agencies whose patent policies are dictated by provisions of their enabling legislation. As a result, there is still a significant diversity in the patent policies and practices of the various Government agencies and departments.

The Allocation of Rights to Inventions Made by Government Contractors and Grantees. There are several issues surrounding the allocation of rights to inventions made by Government contractors and grantees: title vs. license-taking policies; nonexclusive vs. exclusive licensing of inventions; waiver policies; and invention rights to contractors 'and grantees' background patents.

Generally speaking, it has been the Government's policy to retain title and rights to inventions resulting from federally-funded R&D and to grant nonexclusive royalty-free licenses to all inventions for which it holds title. Only in the event that there are no takers on a nonexclusive basis may the invention be offered on an exclusive basis. The Government's policy of retaining title to the invention is based on the belief that the Government should own what it has paid for; and the policy of granting nonexclusive licenses is based on the view that inventions generated with tax dollars should be made freely available so as to benefit all taxpayers.

Some critics of Government "title-taking" policies, however, argue that leaving title with the Government contributes to the nonuse of inventions and deters competent and qualified contractors from seeking Government contracts. They maintain that contractor/grantee ownership of patent titles would better assure commercial development and use of an invention and would assure more willingness on the part of contractors and grantees to perform research and development for the Government. Regarding the Government's practice of granting nonexclusive licenses to inventions arising out of Government sponsorship, it is often argued that the public may actually benefit less from the increased availability of Government-owned inventions because, in reality, there are few or no takers of licenses offered on a nonexclusive basis -- a situation resulting in the nonuse of inventions. The reasoning behind this argument is in the paradox that something free for all is of little use to anyone. It is argued that it is not economically feasible for a contractor or grantee to make the necessary investment to bring an invention to commercialization unless that party is offered some type of lead time in the form of exclusive licensing. Proponents for exclusive licensing rights maintain that assurances may be provided for the use of inventions through the revocability of the exclusive right, should the contractor or grantee not carry out its plan for commercialization.

For obvious reasons, contractors express an overwhelming preference for a Government policy allowing them to retain title to inventions resulting from federally-funded R&D. Regarding licensing practices, the position generally taken by many critics of Government patent policies is that if the Government takes title to inventions resulting from federally-funded

R&D, it should permit the exclusive licensing of these patents in order to better assure the use of inventions. However, critics of the Government's title-taking policies and nonexclusive licensing practices find another alternative acceptable to meet the basic policy objectives of invention utilization and contractor participation: the policy of waiving title of inventions made from federally-sponsored research and development. At present, there are some Government agencies, like NASA and the Department of Energy, that for reasons deemed necessary, allow the granting of waivers to inventions. To encourage the use of inventions whose title is waived to the contractor, waiver rights normally carry with them Government "march-in rights" either requiring the licensing of others or the termination of the waiver in the event that steps toward utilization have not taken place in a fixed amount of time. Those in favor of patent policies allowing the granting of waivers maintain that the flexibility allowed by this policy is its most attractive feature, while some believe that waivers carry with them administrative burdens associated with negotiating time and cost, which may discourage competent and qualified contractor/grantee participation in federally-funded research and development.

Another issue of Government patent policy is the controversial one involving the Government acquiring rights to a contractor/grantee background patents. Background patents are defined as those patents covering inventions made by the contractor/grantee before or outside of the effort which are necessary to the performance of the work of the contract or grant. The controversy arises in the Government's right under certain circumstances to require mandatory or compulsory licensing of a contractor/grantee's

privately-developed background patents. It follows that the most competent contractor/grantee -- the one that has the most background, knowledge, experience, and perhaps even background patents on inventions in a similar area -- will be the party most affected by a Government policy requiring mandatory or compulsory licensing of background patents. It has been suggested that such a policy has led the most qualified contractor/grantees to refrain from competing for Government research and development contracts.

Rights to Inventions Made by Government Employees. Another area of controversy relating to Government patent policy is the Government's policy with respect to inventions made by its employees. Although this issue is not quite as salient as the others surrounding Government patent policy, it is one which is frequently brought up in discussions of the Government's policy regarding inventions arising out of federally-funded research and development. Generally, rights to inventions made by Government employees are determined by provisions of Executive Order 10096 issued by President Truman on January 23, 1950. Briefly, the policy set out in the executive order states that the Government shall obtain the entire right, title, and interest to all inventions made by Government employees (1) during working hours, (2) with a contribution by the Government of facilities, equipment, materials, funds, etc., and (3) which bear a direct relation to or are made in consequence of the official duties of the employee-inventor. While it is generally believed that the Government should obtain rights to inventions by Government employees, there are a few who believe that if policy should be changed to leave rights to inventions in the hands of Government contractors, such a policy should also be applied to inventions made by Government employees.

III. RECENT CONGRESSIONAL ACTION

Congressional Action on Government Patent Policy. In 1976, the House Committee on Science and Technology held hearings on Government patent policy (the ownership of inventions resulting from federally-funded research and development). At those hearings, Dr. Betsy Ancker-Johnson, the Assistant Secretary of Commerce for Science and Technology, outlined the proposal on Government patent policy of the Committee on Government Patent Policy of the Federal Council for Science and Technology (FCST) which covered (1) the allocation of rights to all inventions resulting from federally-sponsored R&D conducted either by contractors or Federal employees and (2) the protection and licensing of all federally-owned inventions. Although no legislation on the ownership of inventions resulting from federally-funded R&D was introduced in the 94th Congress, H.R. 6249 has been introduced in the 95th Congress and referred jointly to the Committees on Science and Technology and the Judiciary. This bill incorporates many of the concepts of the FCST's proposal on Government patent policy discussed in the 1976 (94th Congress) hearings of the House Committee on Science and Technology.

Congressional Action on Institutional Patent Agreements (IPAs). An area of concern that has recently surfaced in the Congress is that of the use of Institutional Patent Agreements, which are agreements between the Federal Government and universities or nonprofit organizations. These agreements provide universities and nonprofit organizations with a first option to own the rights to any invention resulting from their federally-funded R&D. Such agreements have been in use since 1953 by the Department of Health, Education, and Welfare. The National Science Foundation now also uses IPAs.

In February 1978, the General Services Administration announced that a new, standard IPA was being incorporated into the Federal Procurement Regulations for use by the majority of those Government departments and agencies which are not statutorily restricted from the use of such agreements. At the request of Senator Gaylord Nelson, the Office of Federal Procurement Policy in the Office of Management and Budget agreed to delay the effective date of the regulation until July 18, 1978 to allow time for congressional evaluation. The Subcommittee on Monopoly and Anticompetitive Activities of the Senate Select Committee on Small Business, both chaired by Senator Nelson, held hearings on this subject in May and June 1978.

Congressional General Revision of the Patent Laws. There has been considerable congressional interest in general revision of the patent laws since about 1952 when the existing patent laws were codified as Title 35 of the U.S. Code. Since that time, many bills have been introduced and many hearings held. However, probably because of the complexity of the issues involved, no general patent law revision has been enacted, although a number of bills on specific aspects of patent laws have been enacted, like the Patent Cooperation Treaty, P.L. 94-131, 89 Stat. 685, approved November 14, 1975. The most recent bill on the general revision of the patent laws that had significant support was S. 2255 of the 94th Congress. No similar regulation has been introduced thus far in the 95th Congress.

S. 2255 contained no specific sections on the ownership of inventions resulting from federally-funded R&D. Those aspects of patent policy with which S. 2255 and similar bills have dealt are the statutory patent laws

of Title 35 of the U.S. Code which involve the operation of the Patent and Trademark Office of the U.S. Department of Commerce, the functioning of the Commissioner of Patents, the general patent approval process, and the rights of the private inventor and the general public. It is generally held that the four principal goals of general patent law reform are: increased quality and reliability for U.S. patents; accelerated and improved disclosure of new technology; simplification of procedures for obtaining patents; and maintenance of existing substantive standards for awarding patents.

These goals of generally reforming the patent laws of the United States, while affecting mainly the technical operation of the patent system, obviously are of significance in addressing the related issue of the ownership of inventions resulting from federally-funded R&D.

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