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GOVERNMENT PATENT POLICY:

The Evolution of U.S. Government Policy Concerning Patents Resulting From Federally Funded Research and Development, 1941 - 1977

Study Project Report
PMC 77-2

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DEFENSE SYSTEMS MANAGEMENT COLLEGE

STUDY TITLE: GOVERNMENT PATENT POLICY: The Evolution of U.S. Government Policy Concerning Patents Resulting From Federally Funded Research and Development, 1941 - 1977

STUDY PROJECT GOALS:

To provide a comprehensive overview of U.S. Government patent policy concerning ownership of inventions which result during federally funded research and development.

STUDY REPORT ABSTRACT:

The purpose of this report is to provide a comprehensive overview of a most complex and low-visibility subject, U.S. Government policy towards patents resulting from federally funded research and development contracts.

The report covers the period 1941 through 1977 and discusses the evolution of current U.S. Government patent policy. Various attempts by all three branches of the federal Government to establish a uniform patent policy are summarized along with a discussion of current policy and proposed legislation, and a synopsis of Department of Defense policy and procedures. The report ends with a prediction of future legislation to establish a uniform patent policy, and a note of warning to the Department of Defense if that new policy requires the Government to take title to all inventions resulting from federally funded research and development.

The report relies heavily on second source reports from periodicals of the times such a Science and Engineering News. Government reports are frequently referenced.

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GOVERNMENT PATENT POLICY:

THE EVOLUTION OF U.S. GOVERNMENT POLICY CONCERNING PATENTS RESULTING FROM FEDERALLY FUNDED RESEARCH AND DEVELOPMENT, 1941 - 1977

Individual Study Program

Study Project Report

Prepared as a Formal Report

Defense Systems Management College

Program Management Course

Class 77-2

by

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November 1977

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EXECUTIVE SUMMARY

This report is an overview of U.S. Government patent policy; that is, the policy towards ownership of inventions which are developed during the course of federally funded research and development. World War II required the United States to invest heavily in research and development in an effort to field modern weapons of war, and that investment has grown each year. The resultant vast sums of money being spent on research and development brought attention to the question of patent rights. This report covers the period from 1941 to present, and discusses the evolution of Government patent policy and the influences exerted on that policy by the three branches which compose the U.S. Government.

The policy of the U.S. Government and its agencies can be established by the Executive, Legislative or Judicial branches. As an example, the President can state a policy towards patent rights. That policy will be reflected by the executive agencies of the Government, to include the Department of Defense, and the policy will stay in effect until changed by the Chief Executive, successfully challenged in the Courts, or legislated against in Congress.

Despite decades of debate, there is no uniform Government patent policy today. The Executive branch has a policy that essentially allows flexibility. That flexibility has resulted in some 20 different patent policies now being used by the agencies of the federal Government in its on-going research and development contract relationships. Some

Government agencies retain the rights and title to any inventions for the Government, with the contractor getting an exclusive license (title policy), others, including the Department of Defense, give title to the contractor, with the Government getting a royalty free, exclusive license (license policy). The question of license versus title policy has been debated by each Administration and virtually every Congressional session since the late 1940's, and more recently the Courts have become involved because of the "public interest."

This report looks at the efforts to get a uniform patent policy, including the latest legislative proposal, and ends with a review of the Department of Defense patent policy.

Because of the patent rights impact on contracting for research and development, this report should be of interest from a practical standpoint to anyone involved in the systems acquisition process. More importantly, it is highly probable that Congress will legislate a uniform patent policy in the next few years. If that policy turns out to favor title policy, the Department of Defense will have to make significant changes in the way it contracts for research and development. In that case this report should be of special interest in showing the historical development and background of Government patent policy.

TABLE OF CONTENTS

SECTION I

Introduction

"To promote the Progress of Science and the useful Arts by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." Article I, Section 8 of the Constitution of the United States recognized that invention required special protection under Federal law, and empowered Congress to grant patents and to define the scope of the grant. Although the word "patent" does not appear in the Constitution, James Madison's "Journal of the Debates in the Convention which framed the Constitution of the United States," specifically refers to: ". . . grant patents for useful inventions," as a proposition unanimously adopted by the Committee of Detail (1:29). The drafters of the Constitution wisely chose to allow Congress to decide the meaning of words such as "useful," and "exclusive Right."

Congress has carried out its Constitutional responsibility by enacting patent laws, the first of which was passed in 1790, and is still the basic patent law. The effect of the patent laws, as intended by the drafters of the Constitution, has been to grant a monopoly in a new invention for a limited time in exchange for full disclosure of the invention in a patent, and a dedication to the public of the free right to make, use, and sell that invention after the patent has expired. However, at the time the Constitution was drafted, inventions were

normally the result of individual work. The purpose of the patent system is to reward the inventor with a legal right to his invention, and to simultaneously provide for public knowledge of the discovery in order to advance technology.

Over the years the nature of invention has changed significantly from that envisioned in 1790. Today the great majority of important inventions are the result of extensive research, and that research has become increasingly expensive. The tremendous cost of research has moved invention from the domain of the individual to the domain of the large organization. Organizations such as universities, industrial laboratories, and well-financed non-profit research centers have been responsible for an increasing percentage of total patents.

Into this picture enter the agencies of the federal Government. Federal agencies, including the Department of Defense, carry out extensive research and development contracting programs which result in thousands of inventions each year. Patent rights under Government contracts have traditionally been established in the procurement contract. Over the past 36 years the Government's policies towards patent rights have been extensively debated - without significant changes. Consequently, there is today no uniform Government patent policy for ownership of inventions resulting from federally-funded research.

The basic question which has been unresolved over the years is whether or not the Government should take title to a patent resulting from federally funded research, or receive a royalty-free license.

Watson and Holman tied the public interest to the Government's patent policy as follows:

> The patent policies of a federal agency are the servants of the public interest. The public interest consists of thousands of objectives, large and small, far and near, important and unimportant, pursued by Government and by private organizations and individuals. The public interest in, say, the prevention of pollution is one thing; in the prices of farm products it is something else. Relevant here is the public interest in the disposition of rights to the inventions emerging from research and development financed by the federal Government (2:1).

There are two well entrenched and disparate views of how the "public interest" should be protected. One view holds that the Government should only take license to the invention, and that the contractor should retain the patent right and title (license policy). The opposite view is that since the invention results from taxpayer-funded research, the patent should belong to the Government (title policy). There is also a middle-of-the-road philosophy that says the patent rights should be determined based upon the procurement situation (flexible policy). Arguments for all views have been heard by all branches of the federal Government over the past 36 years, and will undoubtedly be heard again.

The evolution of U.S. Government policy concerning patents resulting from federally funded research and development; the influence of the Legislative, Executive and Judicial branches on that policy; and the status of Government patent policy in 1977 are the subjects of this report.

SECTION II

Early Efforts in Determining Government Patent Policy

National Patent Planning Commission

From 1941 through 1945, the National Patent Planning Commission, at President Roosevelt's direction, studied the patent system to make certain that it was operating most effectively in the public interest. Part of the study dealt with the administration of patents which were owned outright by the Government and also with the respective rights of the Government and its contractors in inventions developed during contract relationships. At the time the study was taking place each of the federal agencies which sponsored scientific research determined its own patent policy. The most widespread procedure was to allow the contractor to patent any inventions resulting from Government financed research, with the Government receiving a royalty-free license. The "license" patent policy was the prewar policy of the Armed Services and the wartime policy of the War and Navy Departments and of the Office of Scientific Research and Development. On the other hand, the Department of Agriculture, and other public-oriented federal agencies, let contracts which called for the Government to retain patent rights.

The Commission's Executive Director, A.A. Potter, wrote in 1945:

> While it is not feasible to have uniform practice with regard to patents resulting from Government-sponsored research, it appears, however, that since the Government has no need of the right to

> exclusion conferred by a patent, and does not enter into ordinary commercial enterprises in competition with its citizens, full ownership of patents should not be asserted by the Government (3:719).

The National Science Foundation Debate

In 1945 Senator Harley M. Kilgore of West Virginia issued a report recommending that a National Science Foundation be established to support peacetime scientific research (4). One of the most controversial parts of Senator Kilgore's proposal concerned patent rights:

> To protect the taxpayer's interest, all research and development projects financed in whole or in part by the federal Government should be undertaken only upon the condition that any invention or discovery resulting therefrom would become the property of the United States. The Foundation should also be empowered to grant nonexclusive licenses to persons or organizations wishing to use any such invention, discovery, patent or patent right.

As a result of a request from President Roosevelt, Dr. Vannevar Bush, Director, Office of Scientific Research and Development, conducted a study of science policy, and in July, 1945, issued his Report to the President (5). Dr. Bush's recommendation for a National Research Foundation included a patent policy completely different from that suggested by Senator Kilgore:

> In making contracts with or grants to such organizations (outside the Government) the Foundation should protect the public interest adequately and at the same time leave the cooperating organizations with adequate freedom and incentive to conduct scientific research. The public interest will normally be adequately protected if the Government receives a royalty-free license for Governmental purposes under any patents resulting from work by the Foundation.

The different patent policy approaches espoused by Senator Kilgore and Dr. Bush came to a head during joint hearings on a bill to create

a National Research Foundation, held before subcommittees of the Senate's Committee on Military Affairs and Committee on Commerce. The joint hearings considered a working draft of S.1297 which combined the features of bills introduced by Senator Magnuson and Senator Kilgore. The section concerning patent policy stated:

> Except as hereinafter provided, any invention, discovery, patent, patent right or finding produced in the course of federally financed research or development shall be the property of the United States and shall be freely dedicated to the public (6:1987-1988).

Objection to the uniform patent policy proposed in the National Research Foundation bill was widespread and vocal. The joint committee heard testimony from leaders in the scientific and industrial spheres. The majority of the spokesmen were opposed to the bill's patent policy, and recommended a more flexible policy. Dr. Bush summarized the opposition position when he stated:

> I am very interested, as I know Senator Kilgore is, in working out legislation which will put the patent policies of the federal Government on a very firm footing. I do not think, however, that the proposal in the working draft of S.1297 provides the answer. Under this proposal, all Government agencies would be deprived of the authority which has enabled them to adjust their patent policies to the equities of particular situations. Under this proposal, all Government agencies must acquire full patent rights to all discoveries resulting from research financed in whole or part by the Government. This would mean that even though the funds furnished by the Government were only a minor part of the total cost of a research project, the Foundation would have to insist on acquiring all the patents resulting from the research. This proposal is a drastic revision of existing Government patent policy and I believe would defeat some of the basic objectives of the proposed legislation. It would, for example, deny to the Government, especially in the field of research on national defense, the services of many of the most competent industrial organizations in the country (6:1991).

Dr. Bush's testimony presented the argument which envisioned the

federal Government as having a flexible patent policy, with each department or agency head determining patent policy with respect to contracts made by his organization. Dr. Bush recommended that the system then in use by the federal agencies not be changed.

The argument over patent policy contributed to an impasse on the National Science Foundation bill.

Department of Justice Report - 1947

From 1943 through 1947, the Attorney General conducted an investigation of the federal agency patent policy situation (7), and concluded that a uniform policy should be adopted. Attorney General Tom C. Clark commented:

> Scientific and technological research conducted or financed by the United States represents a vast national resource rivaling in actual and potential value the public domain opened to settlement in the last century. Because the control of patent rights in inventions resulting from such activities means the control of the fruits of this resource, it is important to determine upon a policy for the Government which will best serve the public interest, further the progress of science and the useful arts, and spread the benefits of the scientific advances as widely as possible (8:1785).

The study recommended that all contracts for research and development financed with federal funds contain a stipulation providing that the Government would be entitled to all rights to inventions produced in the performance of the contract.

The findings and recommendations of the Attorney General reflected his position in regards to antitrust, and expressed the concern that industry would build monopoly positions based upon patents which

resulted from Government-funded research. The study left no room for a flexible patent policy, nor for individual agency heads to make patent decisions in unique situations. All patents were to belong to the Government, with a proposed agency to administer royalty-free, non-exclusive licensing of Government-owned patents.

The Attorney General's report received mixed responses, with much of the opposition using the same arguments as in the National Research Foundation bill hearings. The Department of Defense did not accept the recommendations of the Attorney General. DoD wanted a policy which would allow it to carry out it's mission of developing and procuring technically superior equipment without being concerned with commercial applications of any inventions resulting from such development. DoD therefore stayed with its previous policy of allowing the contractor to patent inventions, with the Government receiving a royalty-free license. Several agencies, including the Public Health Service and the Federal Aviation Agency, did adopt patent policies which reflected the recommendations of the Attorney General.

Government Patent Policy - 1950

In early 1950 President Truman announced a basic Government patent policy which affirmed parts of the 1947 Attorney General's report. However, the President specifically omitted any reference to patent policy concerning inventions resulting from federally funded research. In essence, the Chief Executive decided to make no changes to the way

in which federal agencies were independently deciding contract rights.

After almost a decade of intensive scrutiny by several Congressional Committees and the Department of Justice, the Government's patent policy remained virtually unchanged. Congressional concern, voiced by Senator Kilgore, and monopoly concerns expressed by the Attorney General, went unheeded. In 1950 there was no uniform Government patent policy.

SECTION III

Legislative Branch Influence

As Government funding for scientific research grew in the years following World War II, so too did public concern over the patents resulting from that research. Several Congressional attempts were made to get a uniform Government patent policy (such as the patent provisions in the Federal Research Foundation bill), but all such attempts failed. Congress then began to include patent provisions in separate acts, a method of legislating Government patent policy.

National Science Foundation Act of 1950

Congress initiated its first patent policy statement in a non-inflamatory way in the National Science Foundation Act of 1950 (9). Avoiding the basic issue, that of patent title versus license, Congress required that contracts relating to scientific research 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 was made. The act was significant in that it did not require that the Government take title to any patents resulting out of federally funded research. In fact, the National Science Foundation was given the type of flexibility in making policy that had been recommended by Dr. Bush in 1945.

Atomic Energy Act of 1954

Congress moved fully into the patent policy making role with the patent provisions written into the Atomic Energy Act of 1954 (10). In that legislation Congress ensured that any inventions developed during federally funded research would be the property of the Government. However, Congress included a unique provision in the law when it granted the Atomic Energy Commission the power to waive rights to patents "under such circumstances as the Commission may deem appropriate." Lasken and Kornreich explaned Congressional thinking as follows:

> This 1954 legislation gave the Atomic Energy Commission the responsibility of overseeing research and development activities to further peaceful uses of atomic energy by entering into contracts for such research. The sections of the statute . . . reflected the view of Congress that no company should obtain a monopolistic or dominant position in this new field as the result of such contracts. This view was based on the belief that because the field of atomic energy was a new field which had been developed almost entirely through the expenditure of Government funds, the equities required the Government to follow a policy that would assure that equipment in this field was available to private or public users on a competitive basis. In this situation, it was the view of Congress that this heavy investment in the field of nuclear technology overrode the general concept that inventions are brought to practical use more quickly and efficiently through the granting of a patent to the inventor (11:14).

There was little coordinated opposition to the patent policy established by the Atomic Energy Act of 1954, probably due to the nature of the materials being developed. However, the long-term implications did not escape notice, as shown by the following remarks attributed to Wayne E. Kuhn, President of the American Institute of

Chemists:

> Current Government thinking and apparent philosophy that it has the entire right, title, and interest on a patent - instead of getting a royalty-free nonexclusive license - could have a very marked effect on our social and professional inventive climate. One can't increase incentive if one takes away the right of the inventor from making or using his own invention (12:27).

National Aeronautics and Space Act of 1958

In the NASA Act of 1958 (13), as in the Atomic Energy Act of 1954, Congress again established the policy that any invention made in the performance of any work under any contract of NASA would be the exclusive property of the Government. And again Congress gave the Administrator of NASA broad powers to waiver the Government's right to such inventions if he determined that the waiver would be in the best interest of the public. Congressional rationale for the patent policy was not as clear in the NASA Act as it was in the AEC Act. Lasken and Kornreich note:

> It is clear that the Congressional proponents of the title policy had become more vocal at this time and that there was a general belief that the technology of space might be similar to the technology of atomic energy in terms of applicable Government patent policy. In retrospect, this belief was probably unjustified. It is now clear that the technology of space cannot be considered a field of science or technology, but rather is a conglomeration of various technologies. In addition, it is now clear that NASA funds have played a dominant role in only a few of these technologies with most being based on prior military or commercial research efforts. In fact, the position of NASA is much more analogous to that of the Department of Defense than it is to the Atomic Energy Commission's (11:16).

By the end of the 1950's federal agencies were still working under several different patent policies. These policies ranged from

those of the Department of Defense, where contractors were given title to inventions, with the Government getting a royalty-free license, to the AEC and NASA where by law the Government retained title to inventions developed under federally funded research. Naturally, neither patent policy pleased everyone. Congressional concern about the Department of Defense policy was still being expressed by Senator Russell Long of Louisiana, and the statute requirements of the Atomic Energy and NASA Acts were opposed by industry.

SECTION IV

Executive Branch Influence

Continued Congressional Concern

In December 1959, the Senate Subcommittee on Monopoly of the Select Committee on Small Business, chaired by Senator Russell Long, held three days of hearings on patent policies of Government agencies. Testimony at the hearings showed that the Government had no uniform policy on disposing of rights to patents on inventions conceived under Government contract. Some agencies - Atomic Energy Commission, National Aeronautics and Space Administration, Department of Agriculture, Interior Department - took title to the patents. But most Government agencies (with the bulk of the research and development dollars) secured a royalty-free, nonexclusive license to use inventions, and permitted the contractor to retain title to the patent. Referring to the policy of the Defense Department of permitting contractors to obtain patents on inventions made under R&D contracts, Senator Long said:

> This policy will bestow unearned monopolies throughout the country. These monopolies will restrict competition and force the public to pay high prices for new products which would be sold more cheaply if competitors were allowed in the field (14:32).

Defense Department witnesses reiterated the argument that it was not the mission of the Defense Department to administer patents. Further, in order to obtain weapons incorporating advanced technology, the Defense Department had to compete with demands of the civilian market

for the scientific resources of American industry. If industry had no hope of commercial markets because the Government took title to inventions developed under contract, it would be hard to get competent firms for the work. The Department of Defense patent policy was necessary to give industry the incentive to provide the scientific resources required in the national interest.

No legislative action was taken as a result of the hearings.

In 1960 the Senate Subcommittee on Patents, Trademarks, and Copyrights, headed by Senator Joseph C. O'Mahoney of Wyoming, conducted hearings on two bills introduced by Senator O'Mahoney. S.3156 required Government agencies to take title to all patents arising from Government-financed research unless the National Science Foundation ruled that it was not necessary in the public interest. S.3440 required Government agencies to take title to all inventions made under a Government-financed research contract or grant. Again the concerned Government agencies testified that a uniform patent policy was not necessary, and stressed that if Congress did establish a uniform policy that it should be flexible enough to allow the various contracting agencies to make decisions based upon the situation (15:38).

Neither bill was forwarded to the Senate.

In 1961 the Senate Subcommittee on Patents, Trademarks, and Copyrights held hearings on two bills to establish a uniform federal patent policy. S.1084, sponsored by committee chairman Senator John L. McClellan of Arkansas, required the Government to take title to all inventions resulting from Government research and development contracts.

S.1176, sponsored by Senator Russell Long, established the same patent policy but also provided for a new agency to administer Government-owned patents. These bills brought Government and industry witnesses who stressed the need for a flexible policy. The consensus of testimony was that Congress should enact legislation setting broad general policies on ownership of patent rights. Such legislation should include basic principles, guidelines, and criteria to give agencies a measure of administrative flexibility to handle individual cases (16:34).

Neither bill was forwarded out of committee.

In late 1962, the National Aeronautics and Space Administration proposed changes in its patent policy. NASA wanted to permit contractors to retain title to inventions. Congressional opposition was voiced by representatives of both houses. Opposition was based on three points: the proposed change would (1) violate the Space Act and thwart the intent of Congress; (2) impede the dissemination of information on new technology; and, (3) increase monopoly (17:30). Senator Long held hearings of his Monopoly Subcommittee of the Senate Select Committee on Small Business to review the NASA proposal. Senator Long called the policy of giving contractors title to inventions "the outrageous practice of giving away to giant private corporations for their exclusive use the benefits of research work paid for entirely by the taxpayers (18:32)." At those same hearings, Senator Wayne Morse of Oregon called the NASA proposal "flagrantly contrary to public interest and an outright violation of the law (19:26)."

NASA did not change its policies.

In 1963 Senator John L. McClellan proposed a compromise solution to the problem of what to do with patents on inventions conceived under Government research and development contracts. His bill, S.1290, proposed that contractors in most cases would take title to the patent, and the Government would get a royalty-free license to use the invention. However, under certain circumstances, the Government would be required to take title to the patent. Senator McClellan said his bill "provides a reasonable middle ground between the views of those who favor almost total ownership of patent rights by the Government and those who would almost totally exclude the Government from such ownership (20:30)."

The bill did not get out of committee.

The continued Congressional interest shown towards the need for a uniform Government patent policy, and the efforts towards legislating against the "license policy," make both sides of the argument well documented.

George Washington University Study

In early 1961, a Government-financed study made by George Washington University's Patent, Trademark, and Copyright Foundation, concluded that the policies of the various Government agencies were working well and were suited to the purposes of the agencies. The study agreed with the Department of Defense policy of granting patent

rights in most cases to its research and development contractors (license policy), and the opposite policy (title policy) of the Atomic Energy Commission which retained patent rights. The report also expressed the opinion that both sides of the argument were guilty of overstating their cases, and that the conflict was part of the power struggle between big government and big business. The study concluded that no strong case could be made for a uniform Government patent policy (21:36-38).

The Presidential Memorandum and Policy Statement on Government Patent Policy - 1963

The constant Congressional interest, combined with a growing number of federal agencies given research and development missions, made it clear within the Executive Branch that there should be some type of stated patent policy towards federally financed research and development. The Office of Science and Technology conducted an intensive study, and with the cooperation of the various agencies then involved with contracting for research and development, prepared the Presidential Memorandum and Statement on Government Patent Policy. The policy statement set forth the rules governing the type of patent provisions that would be used in contracts. Recognition was given to statutory patent provisions, and a balance was struck between the title and license policy advocates. The broad principles of the Presidential Statement were outlined in the Patent Advisory Panel Progress

Report to the Federal Council for Science and Technology (June 1964):

> The Policy Statement recognizes four basic concepts as being applicable to a Government-wide patent policy; first, that although it is not feasible to have a completely uniform patent practice throughout the Government in view of the differing missions and statutory responsibilities of the several departments and agencies engaged in research and development, nevertheless there is a need for greater consistency; second, that a simple across-the-board "title" or "license" policy is not the answer to this difficult problem; third, that before the public can benefit from inventions derived from Government-sponsored research and development, the inventions must be developed, exploited and placed before the public and used; and fourth, that the determinations as to the disposition of rights be made as early as practicable, preferably at the time of contract (11:21).

In releasing the patent policy, President Kennedy said:

> It is not feasible to have complete uniformity of practice throughout the Government in view of the differing missions and statutory responsibilities of the several departments and agencies engaged in research and development (22:35).

Congressional Action After the Presidential Statement

Lasken and Kornreich note that Congress adopted a wait-and-see attitude towards patent policy during the 88th Congress:

> But as it became apparent that the Presidential Policy Statement only established a policy of "uniform diversity," adopting neither a license or a title approach, advocates on both sides again took up the debate. Accordingly, in 1965, early in the 89th Congress, three bills were introduced in the Senate representing the various positions on the question. Senator McClellan introduced S.1809 which was largely modeled after the Policy Statement. Senator Saltonstall introduced S.789 which favored a license approach. Senator Long put forth S.1899 which followed the approach of the title policy advocates. Hearings on all of these bills were held by the Subcommittee on Patents, Trademarks, and Copyrights of the Senate Judiciary Committee, and are generally referred to as the McClellan Subcommittee Hearings (11:37).

In introducing his bill on the Senate floor, Senator Long attacked the major arguments of the "license" policy advocates:

> . . . (1) Private ownership of patents is needed to ensure the commercial use of new inventions and discoveries. "This argument is just plain nonsense. There is no evidence to support this contention. There is no quicker way to stimulate production, provide employment, and raise the standard of living than to have the Federal Government unlock the treasures of modern science and make them available to all on equal terms," Senator Long said. (2) If Government contractors do not receive patent rights, the incentive to invent will be stifled and the scientific and technological level of the country will fall. "That statement has been made by many hypocrites who themselves contract with scientists and engineers day after day and prohibit them from having the benefit of their discoveries and yet they expect those scientists to produce good work for them (23:32)."

But Senator Long again found himself in the minority position. Of the witnesses heard by the Senate Patent Subcommittee, only Senator Long spoke in favor of his plan to require Government ownership of all patents resulting from federally financed research and development (24:32).

The McClellan bill was forwarded to the Committee on the Judiciary where it passed, but too late to be voted on by the Senate.

Over a period of 20 years, the Congress had considered numerous bills to establish a uniform Government patent policy. However, the question of license versus title policy had advocates of equal strength. Consequently, no legislative action was passed to create a uniform patent policy. Failing at his objective of a uniform patent policy, Senator Long became famous for his "Long-amendment" which was tacked on to every research and development bill reaching the Senate floor. That amendment gave title to the Government.

With ineffective Congressional action, and a dissatisfaction with the Presidential policy, the situation was open for the Judicial Branch to influence Government patent policy towards ownership of inventions resulting from federally funded research and development.

SECTION V

Judicial Branch Influence

The Gatorade Case

The Presidential Memorandum and Statement on Government Patent Policy of 1963 established guidelines for determining patent rights on inventions resulting from federally financed research. However, the guidelines were not definitive, and some ownership questions did arise.

One such case was the Gatorade Case in which Dr. Robert E. Cade, University of Florida in Gainesville, worked under a National Institute of Health grant from 1962 to 1967. In 1965 he began studies on salt and water metabolism and used university athletes in some of his research. By December 1966, he had developed the thirst quencher now known as Gatorade, and he requested forms to file a statement of invention. However, because Dr. Cade was on the faculty and used university students and facilities, the university thought it should have the rights to the invention. Because Dr. Cade was working under a federal grant, the U.S. Government thought it should have the rights. Dr. Cade, who claimed that he developed Gatorade on his own time, thought he should have the rights of ownership and disposition. Because Dr. Cade and the Gatorade Trust he founded gave Stokely Van Camp permission to bottle and sell the beverage, that company thought it

should have rights. The involved situation was turned over to the courts to determine who should have the patent rights (25:143). The patent right to Gatorade was eventually awarded to Dr. Cade and his licensee, Stokely Van Camp.

Revising the 1963 Presidential Policy Statement

In 1965 the Federal Council for Science and Technology established a Committee on Government Patent Policy under its Patent Advisory Panel. The committee's mission was to assess how the 1963 Presidential Policy was working in practice and to acquire and analyze additional information that could help reaffirm or modify it.

On August 23, 1971, President Nixon announced a revision to the 1963 Presidential Patent Policy. The revision was the result of recommendations made by the Committee on Government Patent Policy, and was designed to clarify some of the patent right questions such as that which developed in the Gatorade Case. Science News reported:

> The President's new policy, based in part on the committee's recommendation, allows private commercial developers to obtain exclusive licenses to Government-owned patents (previously considered to be in the public domain). Commercial developers have been unwilling to buy licenses for the use of inventions since they had no guarantee of exclusive rights. Now the head of a Government agency will be empowered to grant greater rights to Government financed inventions to private contractors if the agency head determines it a necessary incentive for commercialization. Where principal or exclusive rights to an invention are retained by the Government, the new policy says the Government may grant the contractor an irrevocable nonexclusive royalty-free license throughout the world (26:143).

And Chemical and Engineering News reported:

> Overall, patent policy for inventions arising from Government funded research will still vary from agency to agency. At the Defense Department, for instance, the policy on such inventions rests largely on the new policy statement. At NASA and AEC, patent policy is guided both by statutory requirements and the new policy statement (27:6).

In explaining the rationale of the Patent Policy Committee's recommendations embodied in the Presidential Policy revision, O.A. Naumann, Executive Secretary of the Committee, pointed out that some 20,000 Government-sponsored inventions were then "sitting on the shelf," and new incentives were needed to get them to the stage of marketability (28:1007).

Revised Policy Challenged in the Courts

Under the revised Presidential Patent Policy, the General Services Administration was directed to publish implementing regulations. Those regulations then became the target of Ralph Nader's Public Citizen, Incorporated. Public Citizen challenged the policy of granting exclusive licenses which was established in the implementing regulation. It was President Nixon's intention to use the option of granting exclusive licenses to spur commercial development of Government-owned patents and to give federal agencies greater flexibility in getting inventions used.

Public Citizen brought suit against the Administrator of the General Services Administration (29), and in January 1974 Federal Judge Parker ruled that the "Constitution prohibits defendant (GSA) from granting

exclusive licenses on Government-owned patents and inventions without Congressional authorization," and that, "Congress has not authorized defendant to grant exclusive licenses on Government-owned patents and inventions." The Court held that the GSA regulations were void and of no effect (30:1). The patent regulations involved in the suit applied only to inventions developed in Government laboratories, so the overall effect on industry was limited. However, spurred on by Judge Parker's ruling, Public Citizen initiated a new suit which challenged the GSA regulation governing patents stemming from work under Government research and development contracts (31). In its brief Public Citizen said:

> It should also be noted that these (GSA) regulations are of greater significance to plaintiffs as taxpayers and consumers than the previous (exclusive licensing) regulations, because the bulk of today's Government research is conducted by private industry. Thus, in 1953, the federal Government spent $1 billion on research in Government laboratories and only another $1.7 billion for research by private industry. By 1973, the Government expenditures for research and development had soared to $16 billion, of which approximately 72% was being allocated to private industry (32:59).

The Public Citizen argument was: (1) the Constitution gave Congress sole authority to dispose of Government property; (2) patents resulting from expenditure of Government funds of research contracts are Government property; and (3) unless explicitly authorized to do so by Congress, it was unconstitutional for Government agencies to dispose of them.

Unfortunately, for the merits of the case, the Justice Department argued that Public Citizen "lacked standing to sue," and the District Court agreed. Both Public Citizen v. Arthur F. Sampson cases were then appealed to the Court of Appeals, the first case (exclusive licensing)

appealed by the Government, and the second case (allocation of patent rights) by Public Citizen. The cases were argued together, and the Circuit Court of Appeals ruled that Public Citizen lacked standing to sue in both cases, thus reversing the District Court ruling in the first case, and upholding the District Court in the second.

Considering the emotion which "title versus license" policy inspires, other suits will undoubtedly be filed in the future, and sooner or later the Court will rule on the merits of the case. At that time, depending on the ruling, the Government could be forced into adopting a uniform patent policy.

SECTION VI

Government Patent Policy - 1977

Thirty Six Years of Debate

From 1941 through 1977 the pros and cons of a uniform patent policy have been argued, without resolution. For 36 years the Government policy towards ownership of federally funded research and development patents has remained virtually unchanged.

By 1977 all three branches of the federal Government had had an opportunity to influence the Government's patent policy. A uniform patent policy was not in effect, and there were many policy makers who felt that none was needed.

Presidents Roosevelt, Truman, Kennedy and Nixon had attempted to formulate their respective Government patent policies, with varying degrees of success. Still, no Executive action had resulted in a uniform patent policy.

Congress had expended untold time and effort in hearing the proponents of "license" versus "title" policy. Unable to resolve the question in one legislative act, Congress piece-mealed legislation in numerous acts which established ownership of the patents by statute.

And finally, the Courts were asked to protect the "public interest." Unfortunately, the second Public Citizen v. Arthur F. Sampson case was not argued on its merits, and was eventually terminated. The Courts may yet resolve the question of a uniform Government patent policy.

Dr. William O. Quesenberry, one of the Government's foremost patent policy experts wrote:

> The dilemma is three-dimensional. Supporters of the two schools of thought are now firmly entrenched in their respective camps of advocacy. There have been few, if any, who have crossed over since the ideological lines were drawn some thirty years ago. Each new generation of enthusiasts merely takes up the gauntlet from weary precursors and flails away with well-worn arguments, pro and con. In the course of the battle, advocacy of a uniform license policy is usually coupled with admiration for the patent system, and the banner is staunchly carried by patent lawyers morally supported by American businessmen. Advocacy of a uniform title policy, often accompanied by hostility to the patent system, is aggressively pursued by an equally dedicated core of liberal politicians nourished by the convictions of economists and anti-trust lawyers. The third dimension, under a banner of "flexibility not uniformity," merely endorses a kaleidoscope of mission and constituency influenced policies. It really has not solved the basic controversy. Given enough time, it stands to be impermeated by the steady flow of restrictive legislation which slowly enlarges the beachhead for the title forces in the battle (33:8).

New Compromise Legislation

At the time this report is being written, a new version of a "uniform patent policy" bill has been introduced in the House of Representatives. H.R.6249, introduced by Representative Ray Thornton of Arkansas (34), is intended to satisfy both license and title policy advocates. The basic idea of the bill comes from the Alternative Approach suggested by the Commission on Government Procurement in its 1972 report (35). That approach called for allowing the contractor to retain exclusive commercial rights to any patents resulting from federally funded research and development. The report did not specify whether the exclusive commercial rights would be in fact the title to the

invention, or an exclusive license. In a scholarly treatise written in 1975, Dr. Quesenberry built upon the Government Procurement Commission Alternative Approach, and recommended that the uniform patent policy be implemented by having the Government retain title to all inventions resulting from federal research and development, with the contractor being licensed to exploit commercial applications of the invention (33). H.R.6249 reflects yet another approach which was developed by the Committee on Government Patent Policy of the Federal Council for Science and Technology. That approach allows the contractor to retain title to any invention resulting from federal research and development, with the Government receiving a nonexclusive license. However, a significant new provision has been added that will allow the Government to sub-license in the event the contractor refuses to give a license to a third party.

During hearings held before the House Subcommittee on Domestic & International Scientific Planning & Analysis, chaired by Representative Thornton, it was pointed out that there are now more than 20 different Government patent policies. In asserting that a uniform Government patent policy is needed, Dr. Betsy Ancker-Johnson, Assistant Secretary for Science and Technology at the Department of Commerce, stated that the diversity of agency practices has "placed an enormous and needless administrative burden on both the agencies and their contractors." The burden arises from extensive negotiations over the rights to be granted contractors and those to be retained by the Government in some

30,000 research and development contracts every year (36:18).

In an effort to have a uniform Government patent policy, the proposed bill also contains a section repealing or amending all previous statutes (such as NASA and ERDA legislation) which give title to the Government. If the proposed bill is enacted as now written, there will be in fact a uniform Government patent policy, with one type of patent rights clause for the federal agencies to use in contracts covering research and development.

Based upon previous legislative experience, there appears to be little reason for optimism that any uniform Government patent policy bill will be passed by Congress. But, perhaps it is time for compromise, as Dr. Quesenberry has proposed:

> The American public has paid for Government technology. It deserves the right to accept or reject this technology at the commercial marketplace and to a uniform patent policy which will accomplish this to the greatest degree. Opponents of the patent system, be they liberal politicians, consumer advocates or antitrusters, must not succeed in isolating the public from this technology with unsubstantiated fears of economic concentration and market abuse. Thirty years of patent policy debate is enough - let us get on with the job. It is time for compromise (33:58).

For the time being, the federal Government will continue its existing policy which is a mixture of license and title policy. It will be interesting to follow the course of H.R.6249, and to hear again the historic arguments of the license and title policy advocates.

SECTION VII

Department of Defense Patent Policy

Development of Current Patent Policy

Since prior to World War II the Department of Defense has maintained that it is in the public interest to give contractors the rights to inventions which evolve from Defense-funded research and development contracts. Department of Defense representatives have testified effectively at Congressional hearings, and with the exception of the Public Citizen cases, there has been little effective challenge to the "license" policy. The latest uniform policy proposal (H.R.6249) generally reflects the Department of Defense patent policy.

Based upon actual practice, Department of Defense policy is that the Government will usually secure an irrevocable, nonexclusive, nontransferable and royalty free license for patents developed during research and development contracts. In some instances title will be taken, such as when a contractor is not eligible or does not want to retain title. In such cases the Government retains title, and the patent goes into the respective agency's portfolio.

However, in point of fact, the Department of Defense is operating under a "flexible" policy required by the Armed Services Procurement Regulations (ASPR). The patent rights clauses in the ASPR reflect the Executive branch policy as given in the President's Statement of Government Patent Policy on 12 October 1963, and revised on 23 August 1971.

The basic intent of that policy is to promote the development of inventions resulting from federally funded research and development so that the public can benefit from civilian use of those inventions. The President's Statement gave rise to three categories of procurement situations in which an ASPR patent rights clause will be chosen which best achieves the intent of the policy.

Patent Rights Retention By the Government

In the first of the procurement situations, the patent rights will be retained by the Government in accordance with ASPR 9-107.2(a) when:

> (1) The 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 at home or abroad, or which will be required for such use by Government regulations (such as Civil Defense items).
>
> (2) The principal use of the contract is for exploration in a field which directly concerns the Public Health or Public Welfare (drugs, medical instruments, etc.).
>
> (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 principal developer in the field and the retention of the exclusive rights at the time of contracting might confer on the contractor a preferred or dominant position.
>
> (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.

When the Contracting Officer determines that the contract meets one of the situations listed above, the Patent Rights Acquisition By the Government Clause in ASPR 7-302.23(a) will be included in the contract.

That clause allocates the principal rights to any inventions to the Government subject to the reservation of a revocable, non-exclusive and royalty-free license to the contractor.

Patent Rights Retention By the Contractor

The contractor will normally retain the principal or exclusive rights in any resulting inventions when the contract falls into the situation outlined in ASPR 9-107.2(b):

> ...where 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 the contractor has an established nongovernmental commercial position.

When the Contracting Officer determines that the contract falls into this catagory the Patent Rights - Retention by the Contractor Clause in ASPR 7-302.23(b) will be included in the contract. Under the provisions of that clause the contractor retains the entire right to any inventions, and grants to the Government a non-exclusive, non-transferable, paid-up license to make, use and sell each invention on behalf of the Government. The vast majority of Department of Defense contracts for research and development use that clause.

Patent Rights Deferred

The third and final general procurement situation as outlined in ASPR 9-107.2(c) allows the Contracting Officer to defer making a decision on patent rights until inventions have developed under the contract.

This situation arises when the commercial interests of the contractor are not sufficiently established as demonstrated by factors such as know-how, experience, and patent position. In this situation the Contracting Officer uses ASPR 7-302.23(c), Patent Rights - Deferred.

Department of Defense Patent Policy - 1977

The Department of Defense patent policy is directly reflected in its procurement regulations. The Contracting Officer evaluates his contract situation to determine if it is covered by the ASPR, and if so, simply selects the appropriate patent rights clause. As "flexible" as that appears, the Department of Defense still follows its traditional policy of giving title to the contractor in the majority of research and development contracts. Unfortunately, very few studies are available on the status of patent rights on inventions resulting from Department of Defense research and development funding. An administrative void exists in the Department of Defense structure, for there is no patent policy entity at the top level. The services and agencies have either one or more entities responsible for patent policy and administration, and they can and do develop data concerning the status of patent rights and inventions resulting from their contracting. However, those studies are normally limited in scope, and designed to satisfy a service-related requirement.

The ASPR is based on the goal of the President's Statement of Government Patent Policy, which is to promote the development of inventions resulting from federally funded R&D, and to commercialize those inventions.

Therefore, it would be appropriate to ask what kind of success the Government has had in getting those inventions and technology released to the public, and what kind of return on investment the public gets for the $20 billion-plus that the Government pays each year for salaries, grants and contracts to generate technology. Speaking to those questions during a 1976 seminar, Dr. Quesenberry indicated that of some 14,000 Government-financed inventions patented by contractors during the previous 10 years, only one in ten was commercialized (brought to the marketplace) (37:13). It can be assumed that a large percentage of those 14,000 inventions resulted from Department of Defense contracts.

The Department of Defense and its contractors are not entirely responsible for the failure to commercialize inventions developed under research and development contracts. In some cases there are limited commercial applications, in other cases significant capital investment would be required to bring the invention to the marketplace. And in some instances the patent rights are probably so confused that the commercial applications are ignored in order to avoid legal entanglements. But it is obvious that the current patent policies of the Department of Defense, stated or actual, flexible or license, contribute marginally to the Executive branch goals as established in the President's Statement of Government Patent Policy.

It would appear to an interested observer that the flexible patent policy of the Executive branch, as reflected in the Armed Services Procurement Regulations, is not achieving its desired objectives. It

would also appear that Congress will have to establish a firm and uniform Government patent policy if the public is to benefit from the inventions made under Government contract.

Conclusion

The Department of Defense has been a strong and vocal advocate of license policy for many years. However, that policy had always reflected the established policy of the Executive branch. The current policy, as stated in the President's Statement on Government Patent Policy, has been challenged in the Courts, and will undoubtedly be tested again. It is most probable that Congress will be forced to legislate a uniform patent policy - but whether it will finally advocate title, license, or flexible policy is still the question. If a license or flexible policy is adopted, the Department of Defense will continue its present policies. However, if Congress chooses title policy the Department of Defense will have to make significant changes in the Armed Services Procurement Regulations, and the procedures that it uses to contract for research and development.

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