



STATEMENT
ON
SCIENCE AND TECHNOLOGY RESEARCH
AND DEVELOPMENT UTILIZATION
POLICY ACT, S. 1215

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SCIENCE AND TRANSPORTATION

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COMMENTS AND OBSERVATIONS

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The invitation and opportunity to participate in the hearings on S. 1215 and present the views of academia is much appreciated.

My remarks today are made on behalf of the University of Wisconsin which is ranked among the top ten universities in the country for academic excellence; the American Council on Education which is the nation's largest association of colleges and universities, numbering among its members approximately 1300 institutions of higher education, 20 national and regional associations, and 80 affiliated institutions and organizations concerned with higher education in the United States; the Committee on Government Relations of the National Association of College and University Business Officers, which Committee is supported by 119 leading universities which, as a group, are the recipients of over 90% of the funds made available to higher education through contracts and grants for scientific activities; and the Society of University Patent Administrators, which is a professional society of

individuals all of whom has some responsibility for administering inventions and patents in connection with some university and which now counts 111 members connected with 77 separate universities.

I have been engaged in the transfer of technology from the university environment to the public sector for the past 19 years as Patent Counsel for the Wisconsin Alumni Research Foundation, which Foundation functions as the invention and patent administrative arm of the University of Wisconsin, and have drawn upon that experience as well as the experience of numerous colleagues of mine who have been similarly engaged for these remarks.

Fundamental to the position of the university community with regard to the disposition of property rights resulting from research and development activities sponsored and funded in whole or in part by the Federal Government are certain strong beliefs which have been amply reinforced by the experience of many years. Among these are the following:

1. that the patent system, imperfect though it may be, is the key to the conversion of scientific knowledge into production benefitting human welfare;
2. that, as stated by Chief Judge Markey of the CCPA, no institution has done so much for so many with so little public and judicial understanding as has the American patent system;
3. that the basic consideration in the disposition of intellectual

property rights should not be whether the Government or the contractor should take title to such property when it is generated in whole or in part with Government funding but, in whose hands will the vestiture of primary rights to invention serve to transfer the inventive technology most quickly to the public for its use and benefit;

4. that the absence of a uniform government patent policy has been a serious disincentive to successful technology transfer from the university to the public and has, in fact, often deprived the public of the fruits of basic research;
5. that the absence of a uniform government patent policy which reflects and supports our system of free enterprise has helped to put the U. S. at peril in the world economic scene;
6. that science has over the years been made increasingly subservient to politics, with decisions being made not on scientific facts but on political opportunity;
7. that the talent of invention must be given the maximum encouragement by providing the inventor and the process of technology transfer all necessary stimuli to inventive and innovation activity in a free enterprise environment;

8. that the less restrictive a Government patent policy is, the greater is the transfer of technology under the policy; and
9. that a uniform Government patent policy under which the contractor has the first option to acquire title to inventions made in whole or in part with Government funds will provide the maximum stimulus to invention and innovation and will be in the public interest.

It appears that the goals of S. 1215 and the university community are essentially the same and, as an instrument toward achieving such goals, the university community, as represented by the organization on behalf of which this testimony is given, supports S. 1215.

At the outset it must be presumed that Government research dollars are made available in the expectation of not only developing basic knowledge, but also in the expectation that the funded research will lead to products, processes and techniques which will be useful and acceptable in all or part of our society to improve the well-being of the society in general.

In the face of this presumption it is apparent that inventions, whether made through the expenditure of private or governmental funds, are of little value to society unless and until they are utilized by society. In order to achieve such utilization it is essential that the invention be placed in a form or condition which will be acceptable and beneficial to the public. In other

words, the technology must somehow be transferred to the public sector.

In a free enterprise system such transfer is normally accomplished as the result of pertinent and appropriate activities of private enterprise. Since such activities obviously entail the commitment and expenditure of substantial monies -- it has been estimated at 10 times or more of the amount needed to make the invention -- adequate and appropriate incentives to such commitment and expenditures must be afforded. Consequently, and since the patent system provides such incentives and is the most viable vehicle for accomplishing the transfer of technology, full and careful consideration must be given to the making of any patent policy which will affect the transfer of technology that has been generated in whole or in part by Government funded research.

One can truthfully say that at best the Government patent policy has been non-uniform and at worst has been a non-policy with the result that some 20 or more policies have developed, generally on an Agency-by-Agency basis and which have not been even necessarily uniformly applied. At the one extreme, some of the Agencies advocated the "title" policy. At the other extreme was those Agencies advocating the "license" policy. There were also many and varied policies between those two extremes.

Governmental agencies operating under the "title" policy insisted on acquiring title to all contract-generated inventions and patents on them, including inventions which were only incidental to the major purpose of the

contract, and then dedicated them to the public through publication, or by offering a license on a nonexclusive, royalty-free basis under any patents obtained to all who requested it. The argument was that all these inventions, including the incidental inventions, should be acquired because they had been "paid for" by the Government and should therefore be owned by the Government.¹

Agencies which adopted the "license policy" permitted the contractor to take and keep title to inventions and patents arising under the contract, while reserving a royalty-free license in the Government to practice the invention for Governmental purposes. The theory which these Agencies applied was that inventions and patents are only incidental to the specific research or products contracted for and that equity demands nothing more than a royalty-free right for the Government to use the inventions.

Since within the universities, more often than not, an investigation is carried out with funds acquired under grants or contracts with more than one Government Agency, and perhaps also with co-mingled funds derived from other sources, the uncertainties as to the applicable patent policy militated strongly against the successful transfer of the technology

¹See, *Public Citizen v. Sampson*, 379F Supp. 662 (D.D.C. 1924) aff'd, 515 F.2d 1018 (D.C. Cir. 1975); Press release by Senator Gaylord Nelson (Wis.) of the Senate Monopoly Subcommittee of the Senate Small Business Committee on Dec. 9, 1977 re the Government giving rights to inventions to contractors; Also, hearings held by Senator Nelson on GSA proposed changes in the FPR issued March 18, 1978; Hearings before the Subcommittee on Monopoly and anticompetitive Activities of the Select Committee on Small Business United States Senate, 95th Congress, 2nd Session on Government Patent Policies, May 22, 23, June 20, 21 and 26, 1978.

developed. Generally, and most unfortunately, the most restrictive policy was applied and without much attention to the equities of the respective funding parties, again with an adverse effect on possible transfer of the technology to the public. It has been the experience of years within the universities that the more "title" oriented an Agency is toward inventions and patents generated under its funding the less the likelihood exists that the technology will be successfully transferred for the public benefit.

An interesting comparison along these lines was made by Harbridge House in its 1968 study² of Government-funded patents put into use in 1957 and 1962. It was found that contractor-held inventions were 10.7 times as likely as Government-held inventions to be utilized in products or processes employed in the private sector for the benefit of the public. Moreover, based upon experience, particularly under the Institutional Patent Agreements as between universities and non-profit organizations on the one hand and the Department of Health, Education, and Welfare and the National Science Foundation on the other hand, there is no reason to suspect that a different conclusion would be reached today.

It seems axiomatic that since the patent system was created as an incentive to invent, develop and exploit new technology - to promote science and useful arts for the public benefit - when the Government holds the patent under the aegis that the inventions of the patent should be freely

²Harbridge House Inc., Government Patent Policy Study for the FCST Committee on Government Patent Policy, May 15, 1968.

available to all, much the same as if the disclosure of the invention had been merely published, the patent system cannot operate in the manner in which it was intended. The incentives inherent in the right to exclude conferred upon the private owner of a patent, and which are the inducement to development efforts, are simply not available.

Although for some 20 or more years the argument swirling about the ownership of inventions made in whole or in part with Government funds was lodged in rhetoric and not in fact, since 1968, after the first of the new Institutional Patent Agreements was made with the Department of Health, Education, and Welfare, a body of evidence has been building which we believe clearly establishes that the universities have been highly successful in transferring technology left with them through licensing under patents while the attempts to license Government-owned inventions has been singularly unsuccessful. Moreover, and of direct importance to the economic well-being of the United States, is the fact that the Government patent policy has made much of the technology generated with Federal funding available without charge or restriction to foreign countries and companies who have very successfully utilized such technology to capture from their U.S. competitors large segments of various markets. The inevitable result was, of course, an increasing balance of trade deficit.

The university community, in espousing an enlightened uniform Government patent policy which will provide an incentive to the transfer of technology, philosophically believes that such policy should apply to all Government contracts. As a practical matter, however, the greater need for the patent incentive lies primarily with the universities, nonprofit organizations and small business. Technology transfer by universities and nonprofits depends entirely on the underlying patent position, and for small business the patent right is an important element in its ability to compete. Nor should such a policy differentiate as between research and development results which are intended for the Government's own use and those which are intended for civilian purposes. It must be presumed in both situations, as pointed out earlier, that the goal of research and development is to generate processes, products and techniques which will become available to and benefit society in general.

In the light of the performance data and information available from experience with the Institutional Patent Agreements there is little doubt in the university community that a uniform Government patent policy under which the contractor has the first option to acquire title to inventions made in whole or in part with Government funds will provide the maximum stimulus to invention and innovation and be in the best interest of the public and of the United States.

We also firmly believe that such a bill should contain appropriate

provisions which will protect the contractor against arbitrary acts by Agency individuals which might deny the rights in the contractor or delay the effort to transfer the technology. To that end it should not provide for the surrender of background patents and should not have compulsory licensing provisions. Also, from the university viewpoint, given the fact that most university-generated inventions are embryonic in nature and require a great deal of development and further, that they are often ahead of their time in a commercial sense, and given the absence of evidence of abuses in the administration of inventions generated in whole or in part with Government funds, and the need for exclusivity in order to convey some exclusivity as an incentive to development, the university community does not favor a limitation on the contractor's exclusive rights in an invention.

The inclusion of a reasonable payback provision in such a bill would be acceptable to the universities, although the return to the public and the country from a successful technology transfer in terms of tangible monies from taxes, such as corporate and individual income taxes, and from foreign sources in licensing and know-how fees, and in intangible benefits, such as in the successful treatment or prevention of disease or improvements in the quality of life, makes the concern about payback rather insignificant. Moreover, and as was mentioned before, the cost

of development of an invention to the market is many times the cost of making the invention originally and any payback should reflect the relative risk dollar equities involved and also reflect the fact that inventions are almost always incidental to the Federally funded research objective.

Turning now to the specific provisions of S. 1215, the university community has some recommendations which, based upon many years of experience with the technology transfer process and the interrelationship with the Government, will improve the bill. These are set out below.

Section 103 Definitions

The definition of a "qualified technology transfer program" in Section 103(13) is drafted so that it is intended to include the five separate requirements listed. If the technology transfer program responds to the five criteria listed (with the revisions suggested below), the program should be considered to be qualified. The word "includes" leaves the requirement for a qualified program open-ended and susceptible to inclusion of a number of other qualifications, perhaps even an agency-by-agency determination of such qualifications. This could easily frustrate the desire for uniformity.

We recommend changing the word "procedures" in Section 103(13) (iii) and (iv) to "provisions" and in (v) delete the words "an active and effective promotional" and insert "a viable."

Section 201 Implementation and
Section 202 Agency Technology Utilization Program

Reservations were expressed about the provisions of Section 201 with all the indicated functions to be performed by the Secretary of Commerce. This along with the provisions of Section 202, relating to development and implementation of Technology Utilization Programs within each agency would likely result in building an unnecessary bureaucracy with all of its attendant paperwork and administrative problems. Notwithstanding the provisions of Section 301(b), the provisions of Sections 201 and 202 may promote a greater tendency by an agency to except inventions under the provisions of Section 201(3) at the time of contracting, with a view of later utilizing Section 303 after an invention has been identified. It is our opinion that this could be construed to permit a case-by-case determination of patent title in each agency that establishes a technology transfer program. We know from experience that case-by-case determination procedures are unworkable.

These sections should be either deleted or carefully circumscribed to prevent use not anticipated by the bill.

Section 301 Rights of the Government

We recommend that Section 301 state a positive presumption of title to the contractor and then list the exemptions.

Throughout our consideration of the provisions of S. 1215 we have had in mind the words of Adam Smith:

"The uniform, constant, and uninterrupted effort of every man to better his condition . . . is frequently powerful enough to maintain the natural progress of things toward improvement, in spite both of the extravagance of government and of the greatest errors of administration. "

Wealth of Nations, 1776

We look upon S. 1215 as an effort and perhaps means to curb both the extravagance of Government and its errors of administration in addressing technological innovation.

Thank you for the opportunity to express these views.

Mr. Chairman, with your permission I would like to submit an additional document for inclusion in the record. This is a paper entitled:

Public Patents - Public Benefit
Synonyms or Antonyms?

which I prepared for a meeting of the State Bar of Wisconsin and which discusses the impact of Government patent policy on competition, innovation, public health, economic growth and jobs, and foreign competition.

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