

Mr. Stuart Eizenstat, Assistant to the President  
for Domestic Affairs & Policy  
Dr. Frank Press, Science Advisor to the President

Re: The Thornton Bill, H.R. 8596

Dear Mr. Eizenstat and Dr. Press:

The statements and opinions contained in this letter represent the views of the American Council on Education, the Association of American Universities, the National Association of College and University Business Officers, the Land Grant Colleges, and the Society of University Patent Administrators. These organizations all have institutional members involved in the transfer of education-developed technology into public use. The membership of these organizations performs nearly 100% of the basic research done in the U. S. at the university level. Your thoughtful consideration and careful evaluation of the arguments presented herein is respectfully requested.

Three major approaches to Government patent policy, set forth below, have been advocated. One, the so-called "license" policy is embodied in H. R. 8596. The second, has been termed the "title" policy, and the third the "deferred determination" approach.

1. License policy. Under this approach, and as provided in the Thornton bill, as a normal rule contractors and grantors would be allowed to retain title to inventions made under Government support subject to a license to the Government and march-in rights. In special cases, a deferred determination, number (3)

below, would be required.

2. Title policy . Under this approach the contractor would be required to agree to transfer title to the Government in all inventions made under a grant or a contract. The Government, in turn, could either dedicate the invention to the public or seek patent protection in the name of the Government.

3. Deferred Determination. Under this approach individual agencies would select the type of patent clause to be used in grants and contracts. Depending upon the manner in which the agency policy is formed, there may or may not be presumptions for or against the taking of title by the Government. This approach, in contrast to (1) and (2) above produces a high degree of uncertainty and variability in treating even closely related inventions among the various contracting agencies.

As a matter of historical perspective, it should be noted that all three approaches have been used in the past thirty-five years during which the Government has been involved in sponsored research and development. For almost the entire period there have been substantial ambiguities and uncertainties on the part of government contractors with respect to what constitutes Government policy. And there have been great differences of opinion between the advocates of these approaches. Parenthetically it should be noted that deferred determination was never really a policy but is more a compromise between the other two approaches. In retrospect it appears that both of the opposing positions, license and title, have been motivated by concerns

for the wide availability of research results paid for with public funds. Their differences have stemmed from their differing perspectives as to what constitutes the essence of Government research and how its results should be made widely available to the public. The organizations represented herein are convinced that an examination of the record of the past thirty-five years demonstrates conclusively that the license policy is more attuned to the attainment of national objectives. For an in-depth discussion of this aspect please see the paper "Analytical Basis for The University Position on H.R. 8596", February 1978, enclosed.

Generally speaking, the license advocates have espoused the position that given the incentives set forth in the patent system and embodied in an highly productive economic system, research discoveries will find their way into the marketplace and into public use, and that increased employment, more tax revenue, an upward progression in the standard of living, more competitive exports and a higher level of public health will result.

The title advocates take the position that the Government must own and control what public funds pay for. Their position, with its nonexclusive licensing provisions, is founded on the implied premise that unless all are assured a share, no one shall have a share. The Constitution does not make that guarantee nor does subsequent legislation. But the Constitution does provide for a limited term monopoly to foster patents and invention and the word "patent" in its basic sense

means to be open for observation. Clearly new knowledge is a benefit to all, including competitors of the owner of an idea. The founding fathers in their great prescience realized, as the title advocates apparently do not, that it is wise to trade a short period of exclusivity and limited monopoly in order to have the knowledge contained in a patent publicly known. The title advocates seem to have little or no regard in their thinking for the costs involved and the incentives required to encourage risk-taking in new ventures. Without such risk-taking and the successful launching of new ventures and new products there can be no profits. And profits are the fountainhead that allows our society to function. It is only through the efforts of the entrepreneurial components of our society and the profits it generates that taxes can be levied and donations made to carry on the vast array of worthwhile activities performed by Government and those of us in the public non-profit sector. It is important that such an environment be maintained live and well.

It is the thesis of this presentation that the title philosophy is myopic, is far too narrow, is economically restrictive, and upon careful analysis, does not even serve the best interests of the Government. Further, the wide utilization of discoveries fostered by the license approach is the only way that the billions of Federal research dollars expended annually can provide research dividends to which the populace is entitled by virtue of their input of tax money.

Government research has been classified by the National Science Foundation into three categories, basic research, applied

research and development.

1. Applied research. Sequentially applied research usually follows basic research and precedes development, it will be treated first herein, more or less to set the topic aside. Many advocates of the license policy from the educational community are involved in or associated with basic research; the advocates of the title policy are usually acquainted with large Government development efforts. These two groups are, respectively, the proponents and opponents of H.R. 8596. The circumstances set forth in (2) and (3) below, may, in part, suggest why these opposing attitudes exist. Nevertheless, applied research involves the assessing of concepts discovered in basic research to determine they can be utilized on problems in the real world. Once this is ascertained and it is decided to apply the findings, development ensues. Obviously, there are difficulties and gray areas in determining where one type of research effort begins and another ends. In any event, the arguments that apply to transferring Government discoveries into public use are equally relevant to applied research as well as the other two categories.

2. Basic research is directed to the seeking of new knowledge. It amounts to about 30% of the total Federal extramural research and development budget. The organizations that are generally engaged in basic research include universities and other nonprofit research organizations with no commercial position or outreach. Their mandate under Government funding is, in most cases, to undertake studies intended to generate knowledge

rather than products. Inventions flowing therefrom, if any, are fortuitous happenings that take place in those instances where the scientist-inventor has the ability to see some special relationship between his scholarly work product and a public need. This need is usually satisfied by involving a commercial concern.

At the discovery stage these inventions are usually in an embryonic state. If the public is to benefit from the availability of the inventions someone, with private capital, will have to undertake some risks. It is estimated that the costs of bringing an invention to the marketplace are ten times the cost of making the invention. The introduction of products based upon inventions from Federally financed basic research generally requires two giant steps, first through applied research and then through development, either product or process but sometimes both, plus market development. Basic research often results in products that require regulatory agency clearance, e.g., by the F.D.A., E.P.A. or U.S.D.A., before marketing. These are hurdles that must be surmounted over and above the aforementioned two major steps. They consume a great deal of time and seemingly endless amounts of money, given regulatory boards' predilections for certainty. The movement of research results into public use, regardless of its origin, always requires the commitment of capital, occasionally in the millions. Private rather than public sources of funds must be utilized because inventions from basic or even applied research are seldom related to the granting agencies

essential missions - there are few agency mission requirements to generate products for public use - and thus do not qualify for further funding. The risks of failure to reach the market or of early obsolescence are high and ever-present in new products, further disqualifying them from public funds. Thus a high degree of financial risks exists for a new product innovator whenever he attempts to bring out a new product. This condition applies to basic, applied and development inventions. All such ideas need very careful and costly nurturing to achieve success.

To bring forth sufficient capital to overcome the inherent risks, the right to make patent protection available to the risk-taker for a sufficient period of time to allow recapture of the investment plus yield a fair return for the risk, is an essential element in the technology utilization scheme. Federal agencies having institutional patent agreement or employing license clauses under their research grants have well developed positions which not only fully protect all Government rights but allow the incentives to necessary for the public to benefit to come forth. H.R. 8596 mandates such language and contract provisions for research. The educational community strongly endorses this bill.

3. Development, by contrast, in the Government context is concerned with the creation to narrowly defined performance specifications of products required by the Government and delivered to it which are necessary to the accomplishment of designated agency mission objectives. Development usually involves the procurement of items for which Government is the sole customer, e. g., arma-

ments, guidance systems, spacecraft, and the like. It is usually conducted by large capital-intensive organizations in the private sector, all of whom have commercial product lines, and where necessary, patent positions to protect the marketing of those lines. Development, when performed under Government contract, is virtually risk-free, because cost overruns are widely accepted and reimbursed. Thus there is little or no risk capital required of a contractor under a development contract and no need to protect and investment - he has none other than his plant and organizational facility - having been funded from the Government from the outset. Further, most inventions made under a development contract are likely to be directly related to the mission of the developing agency and have no other use. By all means Government should retain control over the mission-related products of development (probably by security means) but in such cases it is rather immaterial whether or not the Government seeks patents in such inventions. Since there is no commercial market for such inventions, the right to exclude others to ensure risk-taking, as allowed under a patent, is meaningless, as are any patents that may be pursued on such inventions. As a matter of public policy, it is submitted that there should be no patents pursued on any invention that does not have a hope or prospect, however slight, of commercial utilization.

However, there are situations arising under development contracts where inventions with commercial potential can arise. For



example, in the development of a new submarine periscope it is conceivable that optical systems could be involved having many civilian applications. When these inventions occur, we find the requirements for risk capital very similar to inventions flowing from basic research and the same approaches to handling the patents, i.e. the use of the license clause, pertain.

A rather basic rule can thereby be stated and applied to commercially oriented inventions flowing from basic research, applied research or development; Where risk capital is required and the assistance of private enterprise must be solicited to bring inventions to the market, the appropriate incentives in the form of patent protection to bring forth that risk capital must be provided. The license clause provides such incentives and the Thornton bill embodies the requirement in legislation. ✱

In spite of the Government operating since the 1940's under patent provisions which in some cases granted title to the contractor, it has accumulated in its own name about 30,000 patents as a result of its employment of the title clause. Until recent years these patents have been available to industry only on a non-exclusive basis. The result is that fewer than 5% of the Government owned patents have been licensed, and of this 5%, only a small portion have resulted in commercial products. An interesting comparison along these lines was made by Harbridge House in its 1968 study of Government-funded patents put into use in 1957 and 1967. 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, a strong argument for the license approach embodied in the Thornton bill.

Given Government-wide adoption of the license clause under H.R. 8596 it nevertheless would retain several march-in safeguards incorporated into this legislation to ensure that inventions left with contractors under a license clause would be available for public use. These march-in rights relate to (a) non-use of the invention (b) the presence of anti-trust situations and practices (c) public health requirements (d) mandatory licensing of the invention after seven years. It is submitted that these retained Governmental rights to intervene in license clause situations are substantial and sufficient to protect public availability to fruits of research in all foreseeable circumstances.

Since the early 1960's a few but powerfully-situated Title-in-the-Government proponents have shown an almost religious fervor in the adherence to their advocacy. Unlike religion, however, the determination of important Government policy must rest upon an objective analysis of all available facts. In this regard, those advocating the title approach should be required to demonstrate with facts and with persuasive logic the merits of their position. Merely being among the high priests in Government is no longer sufficient to give their views credibility.

Over the years, the title position has been studied assiduously by many members of organizations represented in this letter in order to determine how sensible it would be as a Govern-

ment-wide policy. Since it is clearly not needed for inventions that are of use only to the Government, and it does, in fact, inhibit activity in situations involving nongovernment products where the calling forth of risk capital is required, it appears to be clearly counterproductive to the utilization outside of Government of the products of Government research. Accordingly, we collectively urge that the license position be adopted as standard Government patent policy and that the Office of The President place its firm support behind the Thornton Bill, H.R. 8596.

Respectfully submitted,

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