

STATEMENT OF
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BEFORE A JOINT HEARING OF
THE SENATE COMMITTEE ON COMMERCE, SCIENCE AND TRANSPORTATION
AND THE SENATE COMMITTEE ON THE JUDICIARY

January 25, 1980

The National Science Foundation wholeheartedly supports the proposed Government Patent Policy Act that has just been presented to you in draft. It deserves to be enacted in this Congress.

From our perspective at the National Science Foundation I would like to make three points about the proposed Act.

First, the Foundation is the agency within the Government whose special responsibility is for maintenance and stimulation of science and scientific research for the benefit of the public. Because of that responsibility the NSF has a deep interest in the working out of science for the use of the public. The proposed Patent Policy Act would do much to bring the fruits of science to the public.

Second, the Foundation is a research-support agency and most of the research we support is performed by universities and small businesses. The NSF therefore shares with other research-supporting agencies a concern for the impact of Government patent policy on research

performers and has a particular concern for its impact on universities and small businesses. The proposed Patent Policy Act would be a major plus for them.

Third, the Foundation has had a special interest, deriving in part from the President's personal interest, in drafting legislation and regulations so that they are as clear and comprehensible as the subject and the substance permit. In drafting the proposed Patent Policy Act the Administration has tried very hard to develop a logical and comprehensible structure and to use plain English. We believe the resulting difference is more than cosmetic, and I would like to say why.

Bringing the Fruits of Federal Research to the Public

The current state of Government patent policy reflects our historic difficulty in achieving consensus on the subject. The reason for that difficulty is not hard to find. Government patent policy is a topsy-turvy world where what seems most plausible, even obvious, to a sensible citizen coming to the subject afresh turns out after deeper consideration and experience to be least workable and least effective.

A common and quite reasonable first reaction is this: "The public paid for these inventions; why shouldn't the patents on them be freely available to all members of the public?"

As it turns out, however, if the patent is available to everyone, the invention is likely to be available to no one. Ordinary citizens, even ordinary businesses, can make no use of a patent as such. The invention must first be developed into a product or process and made available on the market before it does anyone much good.

The research that spawns an invention typically involves only a small fraction of the costs and the risks entailed in bringing it to market as a usable innovation. Most of the costs and the risks of development, production, and marketing remain to be borne by the developer. And those costs and risks are usually very considerable. As a result, only a small fraction of the patentable inventions that are made -- with or without Government support -- ever reach the public as usable innovations.

Fewer still would reach the public without patent protection. Without patent protection the firm that takes the costs and risks of initial development, production, and marketing would have no protection against other firms (particularly firms with dominant market positions) who might otherwise move in for a "free ride" by imitating the fully-developed invention and exploiting the

developed market. The narrow and temporary patent "monopoly" on the invention permits the firm that takes the costs and the risks a protected return on its investment and so provides incentive for it to take that entrepreneurial plunge.

Indeed, furnishing investment protection and an incentive for development after the invention is made may be the most important of the functions our patent system now serves.

Inventions made in the course of Government R&D contracts and grants are not different from other inventions in this regard. The cost of the research that led to the invention, all or part of which the Government has borne, typically is a small fraction of the costs that remain to bring the invention to market. Thus, the risks that remain -- that the invention will not pan out in development, that production costs will greatly exceed what is hoped for, and that the finished product or process will be rejected by the market -- are the really high-stakes risks.

In short, the investment protection and incentive to innovation provided by the patent system are as vital for inventions initially conceived under Government R&D contracts and grants as for those initially conceived under purely private auspices.

But now we come to a second common reaction of a reasonable person coming new to the subject: "Granting that someone should have patent protection to bring an invention made with Government funds to the point where it will be useful to the public, why should the contractor have an inside track? Why shouldn't the Government license or auction the patent to any company willing to develop the invention?"

One answer is that the contractor very often has some equities in the matter, having contributed money, expertise, and other resources to the making of the invention and perhaps to some initial development. In such a case cutting the contractor out would not seem fair. But one could, of course, make an exception for such cases -- understanding that it would be a quite commonly used exception.

The more important answer is that at least in its own established markets, the contractor is usually a much better bet to successfully develop and market the invention than anyone else. The contractor is usually established and experienced in the technical field to which the invention pertains. It has the equipment, models, computer programs, and so on that were used in maturing the idea. It has any know-how surrounding the invention that has already been developed. Above all, it has the inventor as an employee.

Having the inventor is doubly important. The inventor is not only the one person who knows most about the invention and therefore is most qualified to carry forward its development. The inventor is also emotionally committed to his creation. A common theme found in research about progress in technology is that to become a successful innovation an invention needs a "champion" -- someone who believes in it deeply and will devote time and energy to making it work and getting resources devoted to it. In most success stories this champion, in the early stages at least, is the inventor.

In theory, of course, the Government could license someone other than the contractor and require by contract that the contractor make its employee-inventor and its invention-related know-how available to any such licensee. I think I need not belabor the practical difficulties and delays involved in trying to make such an arrangement work across institutional and geographic barriers, especially when neither the inventor nor the inventor's employer has any financial stake in further development.

For all these reasons and more, the most sensible policy, and the one most likely to bring the fruits of scientific research and technical development to public use, is one that allocates principal rights in the

invention to the contractor wherever the contractor is interested in developing or actively licensing the invention. That is the approach adopted by the Administration's proposed Patent Policy Act.

This Act would recognize, however, that the contractor often has no deep interest or no interest at all in developing or licensing inventions outside its regular markets. The inventions might nonetheless have substantial potential application in other markets if someone would "champion" them there. Unless a contractor is willing to make a serious licensing effort in such other markets or fields of use, therefore, the Government should be given sufficient rights to let it champion the invention there. Under the proposed Patent Policy Act the Government would retain rights in all fields of use where the contractor does not undertake to bring the invention to public use by either development or active licensing. We think this too will help bring the fruits of Government-sponsored science and technology to the public.

In promoting innovation, no previous proposal seems to us to combine so effectively the advantages of allocating principal rights to the contractor with the advantages of Government licensing.

Relieving the Burden on Research Performers

The present state of Government patent policy is, in my view, a briar patch for contractors and grantees. They must deal with twenty-plus different statutes and sets of regulations, all overlain by the President's Statement on Government Patent Policy, which has the effect of an Executive Order. Several of the statutes, though not the Foundation's impose serious procedural and paperwork burdens that often result in months or, not uncommonly, years of delay. At least one proposal now pending would layer yet another statutory scheme, affecting only certain types of contractors, on top of the existing structure.

The proposed Patent Policy Act would cut through all this and replace it with a single statute covering all classes of contractors and grantees. It would be implemented by a single Government-wide set of regulations and a single Government-wide standard patent clause. Though agencies would retain reasonable flexibility to reflect the peculiar needs of their own programs or the special circumstances of individual cases, all would work from the same basic framework, instead of twenty-odd different ones.

Nor would the proposed Act impose any excessive administrative burden. Field-of-use designation, in particular, should be manageable. They know their own markets. When the time comes for field-of-use designation they will know the invention and have some idea of its possible uses as well. Moreover, this is not a matter the contractor has to debate with the agency. So long as it is prepared to commit to an effort to develop or license in any field of use, its designation of that field will not be questioned -- unless, of course, it is later shown to have done nothing to commercialize in a field where other firms would like to try.

From the standpoint of the universities and small businesses who are the Foundation's principal performers, the proposed Patent Policy Act is particularly favorable. Indeed, it is essentially similar to S. 414, which has been favorably reported from the Judiciary Committee. The virtues of the approach adopted were well developed in hearings there. The only departures are in drafting style and in the elimination of a few minor restrictions on nonprofit and small-business contractors, restrictions the Administration considers unnecessary and undesirable. The major difference, of course, is that this legislation would not deal with the problem only for nonprofit and small-business contractors, but with the whole problem. And it would prune the present legal thicket, not add to it.

Coherent Structure and Plain Language

Finally, I would like to say a word about the special effort that has been made to provide the proposed Act with a coherent, logical structure and to couch it in language that is as comprehensible as the subject and the substance permit.

I do not mean to claim that the Act will be easy reading for someone new to the subject. This is, after all, a complex and technical area; patent law is almost a profession in itself. We cannot avoid using its specialized terms -- "exclusive license", "field of use", "author's certificate", and so on. Nor can we avoid complex and technical provisions. The considerations bearing on policy in this area that must be accommodated within the rules established preclude simple solutions.

What we can do, however, is avoid the whereases, there-upons, convoluted constructions, and half-page uninterrupted sentences that still unfortunately abound in Federal statutes and regulations. We can also structure the statute so that it is as easy as possible to follow and to understand and so that its principal provisions stand out. Those things the Administration has tried to do in drafting this legislation. I do not argue that we have succeeded completely, but I think we have succeeded substantially.

In our view, this is not a minor virtue, having to do only with the surface of things.

Not far from the surface, of course, "plain English" drafting reduces the length of the legislation and makes it easier to understand. All those who have to work with it -- especially laymen and those new to the subject, but experienced practitioners as well -- will therefore be saved both effort and frustration.

A deeper contribution of "plain-English" drafting is to the substantive formulation and subsequent operation of the statute. By making what is said plainer, it ensures that those who are to implement or comply can easily understand what is expected of them. It also minimizes the unintended ambiguities that create disputes in the administration of the statute. It thus enhances the effectiveness of the law and the respect paid to both spirit and letter.

Most deeply, "plain English" highlights remaining flaws and issues that unfamiliar legalisms and convoluted structure would obscure. This is a vital, substantive service for drafters, legislators, and the public.

To us, indeed, that is one of the great virtues not only of the style in which the proposed Patent Policy Act is drafted, but of the Act itself. Whether it represents an ultimate resolution of the issues in Government patent policy remains to be seen. But its speedy enactment would remove the thicket of laws, Executive issuances, and regulations that now obscures this area. It would highlight the issues and allow us to move on to refinement of a coherent policy. It would also allow us to move on to related, probably more important, issues from which the tedious and seemingly endless debate on Government patent policy has been keeping us.