

STATEMENT OF
MR. BARRY BERINGER
ASSOCIATE UNDER SECRETARY FOR ECONOMIC AFFAIRS
U. S. DEPARTMENT OF COMMERCE
BEFORE THE
COMMITTEE ON ENERGY AND NATURAL RESOURCES

ON

SEPTEMBER 17, 1987

Thank you for your invitation to testify on the management of technology resulting from federally-funded research and development. I am accompanied today by Norman Latker, the Director of the Division of Federal Technology Management.

In order to meet a number of executive and legislative mandates, the Department has been significantly involved in the development of the policy that guides the management of federally created technology. Among our most significant assignments is responsibility for the regulations that implement the Bayh-Dole Act of 1980, P.L. 96-517 as amended by P.L. 98-620, "The Trademark Clarification Act of 1984." The March 18, 1987 issuance of these regulations requires all federal agencies to use a standard patent rights clause that gives nonprofit and small business contractors the first option to ownership to the patentable results of their federally-funded research. Deviation from use of the standard rights clause when contracting with these performers, or altering the conditions attached to ownership, is permitted in narrowly defined categories dictated by the law and its legislative history.

In 1983 the President extended the treatment afforded nonprofit and small business contractors to all other federal contractors and restated this policy in Executive Order 12591.

This policy has been evolving over at least the last decade, and it is important that the committee be aware of the factors that have led to its development.

American industry is encountering increasingly tough international competition, caused in part by a worldwide explosion in new technology. U.S. trade deficits are partially explained by new foreign technology capturing markets previously dominated by the U.S.

This challenge has called for increased efforts to deliver American inventions, whether publicly or privately created, to the marketplace as a source for new businesses and jobs.

The U.S. has been investing 110 billion dollars annually in R&D. Fifty-five billion is federally-funded; the other half private. The magnitude of the federal investment raises two questions: Does free access to federally-funded research subsidize foreign competition? Does it deliver a fair return?

The first question has not been answered conclusively, but many believe that American industry should have, at the very least, first option to the practical results of such research--while at the same time preserving open scientific communication.

As to the second question, facts suggest that we could get more from federal investment in R&D. For example, approximately 120,000 patent applications are filed annually in the Patent and Trademark Office. Of these, less than 3,000 cover federally

sponsored research. The remainder are the result of private sector R&D--including a growing percent coming from foreign sources, which recently passed 46 percent. These facts have produced strong Administration resolve to increase U.S. commercialization of federally generated products and processes.

~~Under past policies, ownership of technology was often separated from the R&D organization that created the technology, putting it in the hands of federal managers who did not have the background to judge its value. Loss of the creator as the owner-advocate made it difficult to continue the complex process of delivering technology to the marketplace.~~

Commerce believes that a key element in increasing the commercialization of federal R&D results is to decentralize technology management to the creating organization. This objective is achieved by the standard clause implementing P.L. 96-517. The right of ownership to technology in general brings with it incentives to use resources to evaluate new technology and determine whether it should be published, patented, copyrighted, held in confidence, trademarked or some combination of these actions. The possibility of income, outside risk capital and royalty return produced by ownership have already prompted federally-funded universities and their publication oriented employee-inventors, to employ technology managers to identify new patentable technologies and to assume the complex responsibility of bringing them to the marketplace.

This activity is noted in an April 1, 1987 General Accounting Office (GAO) report which indicates that there has been:

- a. increased invention reporting by nonprofit contractors and small businesses;
- ~~b. increased licensing of inventions by nonprofit~~ contractors and small businesses; and
- c. increased bidding on government contracts by small business contractors.

Further, as GAO's report pointed out "since the private sector now knows that universities can take title to federally-funded inventions, they are no longer concerned that their research efforts could be 'contaminated' by federal funding with the possibility that a federal agency could assert title rights to resulting inventions."

Accordingly, the funding of cooperative arrangements between universities receiving federal R&D funds and industry has grown 74 percent from \$277 million in FY 1980 to \$482 million in FY 1985 (in constant dollars). The GAO report also points out that while the influence of the The Federal Technology Transfer Act of 1986 alone on competitiveness is difficult to quantify, the overall effect of the change in federal policy has been positive. These facts lead us to believe that the Act has succeeded in fostering the establishment of R&D cooperative agreements which in turn lead to commercialization of federally-funded inventions.

The positive impact of the Act on commercialization has also been confirmed in a July, 1986 report published by the

Association of American Universities (AAU) entitled "Trends in Technology Transfer at Universities."

Establishing the incentives of ownership at the time of contracting are very important because intellectual property rights must be identified and sometimes licensed to justify the investment of private risk funding in most technologies. Failure to establish such rights on a timely basis in a potential marketable product by a publicly funded creating organization greatly diminishes possible private sector marketing of this product.

John Preston, the Director of Technology Licensing at MIT recently testified to the importance of this right in connection with a joint venture he successfully negotiated to develop superconductor technology, which had emerged from a federally-funded program.

Public Laws 96-517, 98-620 and the President's patent policy memorandum of February 18, 1983 combine to give universities, small businesses, and, to the extent permitted by law, all other contractors the first right of ownership to patentable inventions made with federal funds. Public Law 99-502 also extends the principle of decentralized management to government operated laboratories by permitting federal agencies to delegate the management of patentable laboratory technology to the laboratory director.

The Department of Commerce believes that the success of decentralized management of technology is important to the many states that are planning economic growth around R&D assets such

as universities which are now cooperating with the private sector. Under P.L. 99-502, federal laboratories can now be included in this asset base. We believe that the pooling of federal, state, university, and private sector resources through decentralized management is essential if we are to maintain technological leadership in the world.

Though the laws and memorandum I referred to are limited to patentable inventions, the President's Executive Order 12591 directs all federal agencies to assist the Office of Federal Procurement Policy in developing a new policy which would extend contractor rights to the nonpatentable results of federally-funded research such as technical data and software made under federal contracts. This initiative is directed to creating an incentive to commercialize ideas that cannot be protected by patent but are, nevertheless, of commercial value.

Good progress has been made in fostering the commercialization of federally-funded technology by agencies implementing P.L. 96-517 and 98-620. Commerce believes that the vigorous implementation of the President's recent Executive Order No. 12591 could lead to even better results. A 55 billion dollar investment demands that we search for the best ways to make it pay off.