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March 14, 1979

Mr. Niels J. Reimers  
President  
Licensing Executives Society  
(U.S.A.), Inc.  
Encina Annex  
Stanford University  
Stanford, California 94305

LES "Law" Committee Report No. 8  
Re: S. 414, Government  
Patent Policy

Dear Niels:

A subcommittee, under the chairmanship of Leo R. Reynolds and directed to government patent policy, was established in mid-February.

The enclosed letter to Leo will provide the Board with details of the subcommittee's activities re S.414. I assume that members of the Board have access to the PTCJ for a copy of the bill, but if not, they can write to me for a copy.

Please place this bill on the Board's agenda for consideration by the Board at its June meeting.

This is to also ask that all recipients communicate their thoughts on, or references of interest to, S. 414 to Leo Reynolds, noting that Leo's report is due on or

Mr. Niels J. Reimers

-2-

March 14, 1979

before May 15, 1979.

Best regards.

Sincerely,



Eugene L. Bernard  
Chairman  
Law & Governmental Affairs  
Committee  
Licensing Executives Society  
(U.S.A.), Inc.

ELB:vlc

Enclosure

cc: Board of Trustees  
Past Presidents  
Richard E. Moser  
Jack S. Ott  
Leo R. Reynolds  
Donald W. Peterson  
Michael W. Blommer

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Leo R. Reynolds, Esquire  
Chairman, LES Subcommittee on  
Government Patent Policy  
c/o Raytheon Company  
141 Spring Street  
Lexington, Massachusetts 02173

Re: 414

Dear Leo:

This is to confirm that your subcommittee's analysis and study of, and recommendations for consideration by the LES Board on, S. 414 be submitted to me on or before May 15, 1979.

A report on the introduction of S. 414 appears at 417 PTCJ A-3 and the bill (along with introductory remarks, relevant articles, and a section by section analyses) appears in text at 417 PTCJ E-1.

Unless I hear otherwise from you, I assume that this date will be met since this will provide sufficient time to prepare your subcommittee's recommendations for action at the LES Board meeting to be held in June, 1979.

The following materials should (5 copies enclosed) be included in the work of your subcommittee:

1. Letter from Senator Birch Bayh dated February 27, 1979 and "A Special Status Report from Birch Bayh."
2. Letter from G. Willard Fornell, Patent Administrator, (University of Minnesota) dated January 26, 1979 to Dudley Smith, commenting on the subject matter.
3. Memorandum from Sheldon Elliot Steinbach (American Council on Education) dated January 18, 1979.

March 14, 1979

4. S. 3496, 95th Congress (predecessor of S. 414).
5. APLA's "S. 3496, Substantive Amendments."
6. APLA Committee report by James C. Davis, Jr., dated November 29, 1978, to APLA Board on S. 3496.
7. APLA Committee report by James C. Davis, Jr., dated January 24, 1979, to Charles S. Haughey on S. 3496.
8. Comments by James C. Davis, Jr., to M. Blommer on prototype of S. 414 in letter dated February 1, 1979.
9. Letter from Norman A. Jacobs dated November 6, 1978 to Eugene L. Bernard.
10. Letter from Norman A. Jacobs dated August 24, 1978 to Senator Bob Dole.
11. Notes, S-3496, considered at APLA Board Meeting on October 17, 1978.
12. Letter from Tom Arnold dated October 8, 1978 to Niels Reimers.
13. Suggested Changes to S. 3496.
14. Letter from Niels Reimers dated September 26, 1978 to Mr. Norman Latker, et al,
15. "Report on Government Patent Policy is Released by Commerce Department," 406 PTCJ A-13.
16. Letter from Niels Reimers dated December 18, 1978 to Mr. Ky P. Ewing, Jr.
17. "IPO Newsletter" of November 1978, "Government Patent Policy".
18. Letter from Charles S. Haughey dated December 4, 1978 to Senator Harrison Schmitt.
19. Letter from John D. Upham dated November 6, 1978 to Tom Arnold.
20. Letter from Norman J. Latker dated January 11, 1979 to Milton Goldberg.

March 14, 1979

21. Memorandum from James C. Davis, Jr., dated October 18, 1978 to Members of the APLA Government Patent Policy Committee.

The enclosed materials directed to S. 3496, 95th Congress, are obviously germane to S. 414.

I also suggest that your subcommittee consider the following:

a). An article by Ky P. Ewing, Jr. (Justice) appearing at 60 JPOS 736.

b). Study the definition of the term "non-profit organization." William E. Riley, Jr. of Bettelle Development Corporation states that this definition would exclude his organization.

I enclose 5 copies of the enclosures to facilitate your dispatch of this material to the members of your subcommittee.

Best regards.

Sincerely,



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## TECHNOLOGY MANAGEMENT

by

Norman J. Latker  
Director  
Federal Technology Policy

before the

Aerospace Industries Association of America, Inc.  
April 21, 1983

It is clear that we are in the midst of a major economic transition which inevitably will require major segments of our older capital-intensive industries to make significant economic adjustments. At the same time, however, there will be unparalleled opportunities for new jobs, growth, and increased profits.

Part of the transition is explained by the fact that we are experiencing a worldwide explosion in new technologies. Microelectronics, biogenetics, robotics, new materials, information sciences, and other new technologies are the foundation of our future economic growth. But these new technologies will make some major capital investments uneconomic before the end of their planned lives. In steel, open-hearth furnaces can no longer compete with basic oxygen furnace technology, or the potential of new Swedish plasma technology. And in just a few years, we can expect graphite fiber reinforced plastics that are stronger than steel and lighter than aluminum to significantly compete for our metal markets.

However, depending on our national reaction, the total impact can be positive. The delivery of new inventions, no matter what the source, to the marketplace can create an array of new businesses, and new businesses mean new jobs.

Our economic recovery and long-term economic well-being heavily depend upon high-technology industries such as your continuing to make contributions. American leadership in world technology is not necessarily assured even through the 1980's. Our dominance already is eroding in steel, automobiles, machine tools, and consumer electronics.

Part of the reason for this erosion is that other nations are rapidly expanding their technological activities. Ten years ago the United States, with 5 percent of the world's population, generated about 70 percent of the world's technology. Currently, we generate about 50 percent of it, and by 1990 we may only be contributing 30 percent, despite the fact that America will be doing more and more R&D every year. While the pie is getting larger, the other 95 percent of the world will be increasingly engaged in dividing it.

Another reason is the advent of "targeted industry" strategies. Pioneered by Japan, this approach is now being imitated by other foreign nations. Basically, and simply put, in each of the targeted industries, significant economies of scale are achieved by concentrating the number of participants, by limiting imports, by directing government procurement, and by emphasizing R&D investment in manufacturing improvements.

Firms then export targeted products to the United States and other foreign markets at prices based on anticipated, rather than current costs. These practices result in an increased market share; benefiting from economies of scale. Costs eventually slip below prices.

In the face of all this, what strategic options do we have? First, we could accept the gradual shutdown of many of our industries. Clearly, this option is unacceptable. Second, we can surrender to pressure to raise trade barriers. Pressure to do this will continue until our economy recovers or as long as foreign competitors are perceived as taking unreciprocated advantage of our open markets.

Rather than accepting mass exit from some industries or raising trade barriers, there is a third option--we can remove barriers and disincentives to increased exports of our products and services; we can better mobilize our own resources and capabilities; we can remove barriers to increased productivity and innovation; and we can provide incentives for collaborative and innovative technological efforts that will allow us to compete with foreign government "targeted industry" policies. Meeting the competitive challenge this way makes far more sense than isolating ourselves and allocating resources inefficiently through protectionism.

Some people believe that our basic economic policy does not go far enough in promoting high-technology industries. They believe the Government should predict which "future-oriented"



industries will be "winners," and channel investment funds to them. This would be tantamount to a "targeted industry" strategy which is out of keeping with our national character. The Administration believes that to predict "winners" and channeling investment funds would be a mistake. Such policies have not worked in the past and there is no reason to believe we can make them work now.

Even though the Federal Government must fund R&D necessary for our national defense and basic, long-term, high-risk research in the non-defense sector, the Administration believes that Federal support for R&D demonstrations and commercial development should continue to be reduced. It is the private sector's and not the Government's responsibility to fund the commercialization of new products and processes. The Government's role is to remove barriers and create a conducive environment to the introduction of new inventions to the marketplace, whatever their source.

In this regard, we have made progress on the commercialization of Government-funded inventions. Existing law gives small businesses and non-profit institutions the right to title to inventions resulting from their performance of Federally-funded R&D. As in the last Congress, Commerce will support amending that law so that all in the private sector, regardless of their size, will have the same rights without discriminatory conditions. Clear ownership of patent rights in many instances is the key incentive to obtaining risk

capital necessary to bring an idea to the marketplace. Under current law with its new incentives, we are already observing large increases in invention reporting to HHS, Agriculture, and NSF--the primary agencies supporting university-based and non-profit research. In the meantime, until legislation passes, the Government-wide policy will be to give, to the fullest extent allowed by law, all Government contractors and grantees ownership of inventions arising from their performance of Federally-funded R&D subject to agency rights to use for mission purposes. This policy is represented in the February 18, 1983 President's memo and will be implemented through an Interagency Committee on Intellectual Property, chaired by DOC's Assistant Secretary Bruce Merrifield.

The implementation of the President's memorandum is proceeding down a number of paths which we are watching. It would not be appropriate to comment specifically on these actions until they reach the point of public scrutiny. However, we are making every effort to assure that the final reviews include policy officials with a concern toward cost/benefit comparisons, as well as for the economic needs of the country.

In addition, we will be applying the following principles in our review of regulations (FAR or otherwise):

- o Clear ownership in the contractor.
  - o Uniform treatment of all classes of performers.
- Recommendations to apply discriminatory conditions to one class of performers must be justified.

- o A process of reporting, electing and protecting inventions which parallels normal business practices. Present FDR and DAR clauses were identified by the Congress as being inconsistent with such practices (see the legislative history of P.L. 96-517, Sen. Rep. 96-480, at page 27).
- o Reliance on positive incentives rather than inappropriate surveillance and penalties to foster contract compliance.
- o Due process procedures to permit contractors to protect ownership rights if they are challenged under march-in Provisions.

These principles all add up to minimal government intervention and optimum incentive. Presently we are satisfied that OMB Circular A-124 meets these principles.

It is clear that foreign competition has focused our attention on the need to expedite new inventions through the innovation process.

The innovation process is rarely if ever controlled in its entirety by a single organization. Clearly the government is involved at many points through various regulatory controls as well as funding contract research. Non-profit organizations and federal laboratories to the extent they invent are involved. Venture capitalists, banks, technology management organizations and many others are involved. It is axiomatic that if the process is to work efficiently, all those involved

must assume what we call a win--win attitude. We must continue to foster an attitude of government, industry, non-profit cooperation and the willingness to abandon adversarial attitudes which frustrate the innovation process and undermine our ability to compete.

One last point--we heard a great deal about technical data at this conference. Commerce is beginning to hear discussions on the need to reverse the presumption of ownership to technical data generated in performance of contracts to the contractor rather than the government. It presumed that the government's interest could be protected as they are under the new patent policy by negotiating the rights agencies need to perform their mission at the time of contracting.

Contractor ownership of technical data (subject to appropriate license rights in the agency) could serve at least the following purposes:

- a. It would place control of the data in the hands of U.S. companies to the exclusion of foreign competition. Clearly this is a better choice than permitting foreign competition the access they have under present policy.
- b. It could dampen the flow of sensitive but unclassified data to the extent it had an identifiable commercial potential.

P.L. 97-219 which establishes a Small Business Innovation Research program (SBIR) in all agencies having research program

over a designated amount provides for just such ownership in small businesses functioning under this Act. It would be well to begin discussions on extending this concept to other contract performers.

STATEMENT OF  
D. BRUCE MERRIFIELD  
ASSISTANT SECRETARY OF COMMERCE  
FOR PRODUCTIVITY, TECHNOLOGY AND INNOVATION  
BEFORE THE SUBCOMMITTEE ON ECONOMIC STABILIZATION  
OF THE  
HOUSE BANKING, FINANCE AND URBAN AFFAIRS COMMITTEE

~~TIP~~  
~~JOE~~  
~~DAVID~~  
Return to  
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speeches

October 27, 1983

Honorable Chairman and Members of the Committee, thank you for the opportunity to discuss my views on industrial policy. I think we all agree that we are in a period of dynamic restructuring of both U.S. and world economies. Major forces of change are operating that will cause the continual decline of some industrial sectors, but also the emergence of unparalleled opportunities in others.

One of these forces of change is the explosion of technology that is making facilities and equipment obsolete long before their useful lives can be realized and that is progressively telescoping the life cycle of products and processes. At the same time it is generating an unparalleled army of new opportunities. This is a world-wide phenomenon in which the U.S. can be a leader but no longer can expect to be the dominant nation.

Another force of change is the emergence of the Less Developed Countries into the world scene, capturing market share through the use of inexpensive and abundant natural resources or labor. Much of the commodity petrochemical business in the U.S. and other developed countries may be damaged as the underdeveloped countries build turnkey plants or purchase existing plants into which they can use excess oil or gas that is abundant in the economy and for which very low transportation costs are incurred. Natural gas or oil must be

charged in at the cost of energy (\$3.50 - \$4.00 per million BTUs) in this country, making these operations non-competitive with markets that have abundant local sources.

A third force that is more apparent than real is the "targeted industry strategy" first developed by the Japanese and now being copied by many other nations. In addition to meeting domestic goals, this strategy may involve an attempt to develop internationally competitive industries. Steel, consumer electronics, machine tools, microchips and robotics are examples of past or current targeted industries.

But we need to make three observations here. One, it is not entirely clear that Japan has been able to direct much of its public resources to targeted industries. There have been studies that indicate that most of the Japanese government subsidies directed toward industry go toward traditional rather than emerging industries. Second, in those cases where the government has managed to direct resources toward targeted industries, there have been some serious mistakes that are characteristic of bureaucratic targeting. Japan is now faced with the rationalization and write-off of very large investments in steel, aluminum, petrochemicals, textiles and shipbuilding, for example, because the world-wide production capacity in these industries now far exceeds the world demand.



(It isn't helpful to have the best steel technology if you are operating at 60% of capacity and losing money on every ton of production).

The third observation is even more serious. The targeted industry strategy can be a zero-sum game when nations attempt to take market share in low-growth or declining industries -- an approach that causes overbuilding of world capacity to the point where the industry becomes unprofitable for everyone. This can also be the case in potential growth industries if everyone builds capacity in expectation of substantial growth.

These forces of change are interactive and will continuously restructure U.S. and world economies over the coming decade.

Nevertheless, the U.S. has unparalleled strengths that include the world's most advanced technology, an incomparable depth and breadth of industrial infrastructure, a unique entrepreneurial culture, and the world's largest domestic market. No other nation has such an array of resources, skills, and cultural tradition.

It is our belief that this unique set of capabilities is best served by removing governmental barriers that inhibit the effective mobilization and reallocation of these resources and

by the using existing tax incentives that encourage the creativity of our remarkable entrepreneurial marketplace while preserving an important degree of accountability.

We have a number of ways to finance new developments and these include:

- o Internal cash flow funding
- o Borrowing
- o Trading equity for funds (venture capital)
- o The R&D Limited Partnership (RDLP)

Direct government grants or loans assume knowledge and wisdom that rarely exist in a bureaucracy. The Japanese mistakes bear witness to this fact. Instead, I prefer to rely on free market forces. The R&D Limited Partnership is unique in that it uses existing tax incentives that are equally available to declining as well as growth industries. It also provides a funding mechanism that can preserve equity ownership for the entrepreneur.

Venture capital has traditionally flowed to non-start-up companies or to second or third round financing of already

operating companies. Venture funds have the disadvantage that they exchange funding for equity. Borrowing and internal cash flow funding assume a healthy balance sheet in a positive cash flow enterprise. Therefore, for negative cash flow enterprises the most constructive of these alternatives is the RDLP.

It will come as no surprise when I say that we should be skeptical of the merits of an industrial policy that is used by other countries. I believe that the main job of the Federal government is to create an environment for long-term, non-inflationary growth and allow the private sector to respond to rapidly changing competitive forces. I believe it would be a serious mistake if we were to develop an industrial policy directed to promoting selectively or restructuring particular industries.

I would like to illustrate the logic of that position by discussing industrial innovation. Not only is innovation, in its broadest sense, a main concern of my office and a crucial element of our long-term competitiveness, it is also at the very core of the industrial policy debate.

The basic issue of industrial policy is whether our industrial structure should be directed by a handful of government decisionmakers or by millions of businessmen and consumers

responding every day to new market and technological requirements. Our current challenge is the management of continual and rapid change, especially in technology. While this has always been true in technological innovation, the forces described above have recently increased the tempo of change and, consequently, the demands on management.

These forces have intensified the pressure on management, both in the private sector and in government. To master these forces we need a management system with flexibility, which only the private sector can provide.

Government policies and programs do exert a major influence on the direction and rate of technical development. Examples of influential factors include government procurement policies, R&D support, patent policy, antitrust policy, tax policy, education activities, and deregulation. We are using all of these to encourage innovation with broader benefits to society.

Examples of our approach are:

- o Reallocating direct federal research funding toward basic research, where commercial incentives are weak or don't exist, and away from development and demonstration of commercial technologies more appropriately undertaken with private funding.

- o Attacking the problem of transferring federally funded technology from basic research performers by patent policy changes which "automatically" transfer new technology to the organizations that develop it and that have the incentive to commercialize it, rather than "warehousing" and licensing it at a later time.
  
- o Promoting private sector cooperative R&D, by proposed legislation to reform the antitrust laws.
  
- o Encouraging basic research performers to become involved with industry to shepherd their new ideas further along the innovation process toward commercialization.
  
- o Promoting the use of creative financing mechanisms like research and development limited partnerships to tap new sources of funding for R&D; and
  
- o Enhancing protection of intellectual property held by developers of new technologies.

As a result of these and other initiatives we have already seen:

- o An increase in private R&D spending, which has recently surpassed Federal R&D spending.

- o An increase in venture capital investments.
- o A sharp increase in university/industry/State and local government R&D cooperation.
- o Major new private sector cooperative R&D ventures.
- o A sharp increase in patenting and licensing of technology by universities and increased use of exclusive licensing of Federally-owned technology.
- o An upsurge in private sector activity in R&D limited partnerships.
- o Issuance of a Presidential Memorandum on patent policy extending contractor ownership of federally funded inventions under the policies of P.L. 96-517 to performers not covered by that Act.
- o The encouragement of new roles and organizational structures to enhance the development and utilization of university, nonprofit and Federal laboratory research results.

We believe that the correctness of our approach is rooted in the American tradition. This is quite apart from the controversy over whether other countries are in fact more

competitive as the result of their industrial strategies. Some authorities indicate that Japan, for example, succeeds in spite of its industrial strategies, not because of them.

I believe that prioritizing or reallocating national resources by the Federal government to specific industries or technologies is likely to be counter-productive. First, the Federal government record in picking commercial technologies is suspect, at best. Second, the Federal government is subject to political pressures. Finally, any centralized plan is simply too inflexible to manage continuous change successfully.

It is important again to remember that the United States has unparalleled opportunities and strengths which will enable it to maintain or reestablish economic preeminence:

- We have a pool of unused or underused technology developed in the last 30 years that represents some 90 percent of all the world's scientific knowledge.
  
- We have an industrial infrastructure that is unequalled in breadth and depth anywhere in the world.
  
- We have the largest capital formation capability in the world and a venture capital industry that is funding hundreds of new projects and start-ups each year.

-- We have the world's largest, most coherent set of markets and a unique entrepreneurial culture.

The economy is reacting appropriately right now to the challenges that we face. It is taking those actions that are needed to adjust to new technological and market realities. Equally important, by letting the market make these adjustments we will not only achieve a highly efficient distribution of resources, but we will also expand such resources.

In the final analysis, the imperative of economic growth demands a dynamic and flexible private sector management style that only the market can provide. Credit controls, trade controls, wage and price controls, and management controls by the Government have no place here. In particular, an industrial development bank which could impose operating plans, change managers, extract pay concessions in return for loans or guarantees, and choose specific industries for support, would be taking such decisions out of the private sector.



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ASSISTANT SECRETARY OF COMMERCE  
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- We have the largest capital formation capability in the world and a venture capital industry that is funding hundreds of new projects and start-ups each year.

-- We have the world's largest, most coherent set of markets and a unique entrepreneurial culture.

The economy is reacting appropriately right now to the challenges that we face. It is taking those actions that are needed to adjust to new technological and market realities. Equally important, by letting the market make these adjustments we will not only achieve a highly efficient distribution of resources, but we will also expand such resources.

In the final analysis, the imperative of economic growth demands a dynamic and flexible private sector management style that only the market can provide. Credit controls, trade controls, wage and price controls, and management controls by the Government have no place here. In particular, an industrial development bank which could impose operating plans, change managers, extract pay concessions in return for loans or guarantees, and choose specific industries for support, would be taking such decisions out of the private sector.

Reg. W  
H. C. K. State  
WJL

Norm Lattler

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to Lantz 10:20 1/6/83

Suggested Topical Outline of Secretary's  
Speech Before the U.S. Basic Industries and  
High Technology Conference, March 1, 1984

The main thrust of the Secretary's speech, and a thrust which can serve as the Administration's centerpiece during the election campaign, is that recent studies and forecasts of economic growth clearly demonstrate the success of the Administration's economic policies -- essentially supply side economics.<sup>1</sup> 'Stay the course' is the message.

Collaterally, it would be folly to:

- o change from a viable policy to one of uncertain outcome (e.g. creation of a National Development Bank)
- o focus on balancing the budget by direct means such as tax increases but, instead, continue to focus on economic growth. Naturally, the Secretary would indicate continuing resolve to hold down the rate of growth of Government spending. Reduced deficits (as borne out by the data) are a natural outgrowth of sustained economic growth.<sup>2</sup>

The recent data indicating strong, sustained economic recovery and the presumed cause-effect of Administration policy enable the Secretary/Administration to avoid concentration (publically) on a negative factor (i.e. reducing budget deficits), while focusing on a much more politically acceptable positive factor of economic growth, and making major progress on the deficit as a biproduct. There is no match for this strategy on the democratic side.

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1. See simulation results of study by Sanai, Lin, and Robins in National Tax Journal, September 1983 for impact of Reagan policies on economic growth and projected budget deficit reductions. Also, OMB economic growth projections (on which budget deficit estimates are partially based) are too low. In January, the projection was 3.1% in 1983, in July it was up to 5.5%; now we expect 6.5%. Kendrick's figures imply a growth rate of 4.5% for the balance of the 1980's.

2. The Sanai, et. al. study showed dramatic gains from ERTA (tax reductions) in economic growth, savings, investment, and employment.

The Secretary should also indicate that the major world forces of change (e.g. accelerated pace of technological development, growth of LDC sophisticated and competitive product/process development capabilities, the fact that while foreign targeted industry strategies may not substantially enhance domestic capability, they can harm U.S. industries and create world overcapacity to the detriment of all etc.) are causing major structural changes which, in turn, create an imperative in the U.S. for a stronger industry-government partnership.

However, this partnership rests not on expensive, essentially interventionist government programs, but on the pillars of (1) government removing barriers (e.g. antitrust) (2) government providing incentives (e.g. stronger tax incentives for R&D and the entire innovation process, promotion of innovative financing techniques such as RDLP's, Federal patent policy), (3) the government providing better or more coordinated access to critical information (e.g. technology at Federal laboratories, competitive assessments), and (4) the government providing certain catalytic services (such as strengthening the network of private sector and government information services and, with respect to the international arena, increasing joint venture mechanisms via the BIRD Foundation model -- which serve also to reduce the huge LDC world debt. Here the Secretary could cite examples of current DOC initiatives.

If the above strategy is followed, it would not be necessary to be defensive regarding certain democratic initiatives, such as a national development bank. Just emphasize success from existing policies.

*William*

N. Latker

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Presentations

U.S. DEPARTMENT OF COMMERCE  
STATEMENT OF D. BRUCE MERRIFIELD  
ASSISTANT SECRETARY FOR PRODUCTIVITY, TECHNOLOGY  
AND INNOVATION  
BEFORE THE SUBCOMMITTEE ON SCIENCE, RESEARCH AND TECHNOLOGY  
COMMITTEE ON SCIENCE AND TECHNOLOGY  
U.S. HOUSE OF REPRESENTATIVES

FEBRUARY 7, 1984

Mr. Chairman and Members of the Subcommittee, I am pleased to have this opportunity to discuss the authorization for the programs of the Office of Productivity, Technology and Innovation. The Secretary of Commerce will be submitting draft legislation which would, if enacted, authorize appropriations for the National Bureau of Standards and the Office of Productivity, Technology and Innovation. Dr. Ernest Ambler, Director of NBS, appeared before you on February 2 to describe the activities and programs of NBS.

As Assistant Secretary for Productivity, Technology and Innovation, I serve as the principal advisor to the Secretary of Commerce on issues of productivity and technological innovation and competitiveness. The two organizations that report to me are the Office of Productivity, Technology and Innovation (OPTI) and the National Technical Information Service (NTIS). Today I will confine my testimony to OPTI, which is covered in Section 4 of the proposed bill and for which we have requested \$3,371,000 in FY 1985 appropriations. Dr. Joseph Caponio, the Director of NTIS, will testify on NTIS.

We are all aware that advancing technology is one of the major driving forces for both the U.S. and the world economy. It is progressively shortening the life cycle of products and processes; it is substituting new systems for old; it is placing increased competitive pressure on some of our industries; but it is also opening up unparalleled new opportunities.

I think we need to remind ourselves that this nation funds several times more basic research than does any other country, and that therefore we have an enormous pool of advanced technology upon which to draw. We also have an incomparable depth and breadth of industrial infrastructure that can translate basic discoveries into useful products, processes and services. In addition, we have a unique entrepreneurial culture, the most flexible capital development capability, and the world's largest market. In my mind, there is no question that we have unparalleled advantages over all other nations if we can effectively mobilize these resources.

I see this mobilization task as our mission. Our approach is to remove barriers, provide incentives, and stimulate industrial innovation and productivity enhancement in the private sector through non-interventionist methods. Our aim is to create a climate conducive to innovation and productivity growth.

I'd now like to discuss briefly the OPTI programs.

The Industrial Technology Partnership (ITP) program was initiated in 1983. It is designed to stimulate higher levels of private sector R&D investment in the United States. The primary focus is on greater use of R&D limited partnerships (RDLPs). By attracting funds from limited partner investors, companies using the RDLP approach can undertake R&D projects which normally would be too large for any single company to mount -- all without the federal government's direct involvement. The advantages are many: the equal availability of RDLPs to growing, troubled or start-up businesses; the ability of RDLPs to capitalize on existing tax incentives; and the use of previously untapped venture capital rather than retained earnings, new equity issues or borrowing. Examples of OPTI efforts to promote private sector use of RDLP's are:

- o publication of guidelines on forming RDLP's, over 2,000 of which have been distributed following requests;
- o preparation of feasibility packages to identify high technology projects suitable for large scale RDLP's;
- o working toward the clarification of IRS rules as they apply to RDLP's;



- o the performance of computer simulations of industry sensitivity to key variables such as labor, materials, and quantity of production, thereby identifying actions most conducive for the application of RDLP's;
- o implementation of four regional conferences and other outreach activities to publicize the advantages and concept of RDLP's;
- o educating private sector individuals in understanding the use of RDLP's, and;
- o the development of tax proposals to strengthen incentives for RDLP formation.

By my estimate, RDLP's provided over \$500 million for new technological projects in 1983 alone. A growing number of RDLP's are forming in the over \$25 million range.

The Office of Productivity, Technology and Innovation is also participating in a working group formed by the Cabinet Council on Economic Affairs (CCEA) to modify tax laws to improve incentives for developing the high risk, long term advanced technology that is needed to maintain U.S. industrial leadership. At our urging, the Cabinet Council on Economic Affairs recommended that the 25 percent incremental R&D tax credit be extended for three years.

In addition, OPTI contributed to the drafting of the Administration's proposed legislation -- the "National Productivity and Innovation Act of 1983" -- which would ease antitrust constraints on cooperative R&D.

The Government is spending over \$40 billion a year to fund research and development. This R&D is either performed by private sector performers under contract or federal employees in the course of their employment. There is a continuing stream of new technology from this effort, some of which can be the basis for new products, services, jobs and industries.

*The Department of Commerce*  
~~Through the Federal patent policy program~~ OPTI is moving vigorously to remove any identified barriers and create the *the initial protection and* necessary incentives for the commercialization of this technology. ~~by us.~~

Examples of activities under the Federal patent policy program are:

- o establishment of an Interagency Committee on Intellectual Property for Innovation, which I chair;
- o issuance, at OPTI's initiative, of a Presidential Memorandum extending contractor ownership of inventions to all contractors, within certain statutory limitations. We have worked with private sector

organizations and Congressional offices to draft legislation in this area such as S. 2171 introduced on November 18, 1983 by Senator Dole;

- o development of a model system for Federal laboratory cooperation with the private sector designed to increase the flow of Federal technology into new products and processes through increased management focus and enhanced incentives for inventors and the laboratories in which they work;
- o expected issuance of a new Federal Acquisition Regulation to implement the new Federal patent policy; and
- o review of agency implementation of P.L. 96-517 (Patent and Trademark Amendments Act of 1980).

We are increasing our efforts to license commercially valuable inventions owned by the government through the NTIS Patent Licensing Program. Dr. Caponio will discuss this in more detail. The Center for the Utilization of Federal Technology (CUFT) implements provisions of Section 11 of the Stevenson-Wydler Technology Innovation Act of 1980. This program alerts industry to that Federal technology with the highest potential for practical commercial use. Dr. Caponio will also address this program in his testimony.

In our productivity policy and coordination program, we

- o provided policy initiatives and analytic support to the Cabinet Councils on Economic Affairs and Commerce and Trade, the National Productivity Advisory Committee, and the President's Commission on Industrial Competitiveness;
- o prepared issue papers for the White House Conference on Productivity, conducted a symposium with the Department of Labor to apprise State Cabinet level officials of Federal resources to help promote local firms' productivity, and organized a conference with the managing directors of the European Association of National Productivity Centers, to exchange know-how on latest industrialized nation productivity practices;
- o established a pilot program to improve productivity measurement at the firm level, while concurrently providing a methodology for interfirm productivity performance comparisons; and
- o developed a system for synthesizing policy recommendations from major private sector and public forums.

Another productivity-related program is operated by our Commerce Productivity Center. The Center:

- o answers (annually) about 3,000 inquiries for productivity 'know-how' information -- mostly with off-the-shelf publications, and
- o furnished leadership in a current National Productivity Awareness Campaign in partnership with the American Productivity Center, the Advertising Council and the National Association of Broadcasters.

One of the factors that affects our ability to compete abroad is whether we supply products in metric sizes. The United States is the only industrialized country which is not predominantly metric. Examples of our activities in the voluntary metric conversion area are:

- o providing the public with general and technical information on the metric system and the conversion process -- we answer thousands of inquiries per year;
- o operating interagency metric committees to foster a more uniform approach to Federal metric usage. The recent decision to include metric measurements in federal civilian standards and specifications stemmed from this activity;

- o identifying Federal regulations which impede increased metric usage by the private sector and seeking their modification or removal, and
  
- o providing staff services to the National Conference on State Metrication and the Metric Education Information Committee;

Shifting to another area, smaller firms are major developers of new, technology-based products and services. Yet, it is often difficult for them to complete all the steps along the innovation pipeline because they lack information on essential services such as financing, licensing opportunities, and Federal Government and private sector support programs. Accordingly, OPTI is identifying the existing sources of information and services to support small business innovation, and will make that information available in a format that can be used easily by our small, technology-based business community.

Mr. Chairman, the absolutely critical role that productivity growth and technological innovation plays for U.S. economic growth and international competitiveness cannot be overemphasized. I believe that OPTI is making a significant contribution in this regard.

I would be pleased to answer any questions.

A.

IPO presentation  
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INTELLECTUAL PROPERTY RIGHTS, INNOVATION AND  
PRODUCTIVITY ARE INSEPARABLY LINKED

Increased productivity is an essential U.S. goal. It is the only long term solution to inflation. Furthermore, it will be required for the survival of many businesses in increasingly competitive global markets.

Foreign nations have progressively mounted concerted government-industry collaborative efforts that target and subsidize specific industries. No individual company can compete with a nation targeting its business. In addition, developing countries now are capturing major shares of other markets with inexpensive natural resources and low-cost labor. Finally, excess world capacity in many basic industries has resulted in underutilization and declining or negative profitability for many U.S. operations.

Compounding the problem are antitrust and regulatory barriers to innovation, and a high cost of capital that disproportionately discourages research and development, and slows needed investment in more productive facilities. It is an Administration priority to remove antitrust barriers that inhibit cooperative research, to provide enhanced incentives, and to catalyze in noninterventionist ways, increased private sector innovation and productivity.

Central to the innovation process are the intellectual property laws. The constitutional right to own patents to copyright written material has been an important factor in the rise of the United States to world technical and industrial leadership. It is important that these laws which have been eroded in recent years be further strengthened and extended.

But it is also important to appreciate that the United States has incomparable advantages over all other nations. We have by far the most extensive pool of fundamental knowledge in the world. This pool is currently funded to the extent of about \$10 billion per year, and is many times greater than that of any other country. It provides the resource base for much of the technology now being developed worldwide. In addition, no other nation has an equivalent depth and breadth of industrial infrastructure competent to translate new discoveries into useful products, processes, and services. Finally, we have a unique entrepreneurial culture, the most flexible capital development capability, the world's largest market, and a common language for communication. Effective mobilization of these resources can increase productivity and reestablish leadership in almost any area of concern.

Increased productivity can come both from incremental improvements in existing operations, and from major-step innovations. Incremental improvements include such things as cost reductions in labor, energy, overhead expenses, materials,

and inventory. Also, increased production volume per unit of invested capital, and higher quality of product produced can make contributions to increased productivity.

However, the greatest contributions come from breakthrough innovations that produce new ways to solve old problems. Enormously increased productivity resulted when the steamboat replaced the clipper ship, when the automobile replaced the horse and buggy, and the transistor replaced the vacuum tube. Now, rapidly accelerating innovations in electronics, communications, engineering-plastics, biogenetics and fusion energy, for example, will have even more profound effects on real productivity over this and succeeding decades. Many of these great strides will occur first in the United States, if barriers can be removed, and incentives provided.

The Administration currently is pursuing many parallel initiatives to achieve these objectives. Of particular importance are:

- o The development of R&D Limited Partnerships as a method for financing innovation without direct government intervention in the marketplace.
- o The introduction of legislation to make permanent the incremental tax credit for R&D and to extend its use for new ventures and R&D Limited Partnerships.
- o The introduction of legislation to modify the antitrust laws to allow collaborative R&D and to reduce treble to single damages.
- o The issuance of a Presidential Memorandum requiring patent rights for government-funded technology to be exclusively granted back to private sector contractors. (The Dole bill in the Senate and comparable House legislation is intended to modify the charters of those agencies that cannot now legally comply.) Federal acquisition regulations are expected to be issued in April, implementing this directive.
- o The acceleration of exclusive licensing of government patents to private sector firms through CUFT (The Center for Utilization of Federal Technology in Commerce).
- o The introduction of legislation to make counterfeiting of trademarks a criminal offense, to restore patent life lost during government regulatory processes, and to prevent infringement of U.S. process patents by foreign companies manufacturing abroad.

Effective implementation of these objectives could go a long way toward releasing the unique creative energies that exist in our free market economy, and toward increasing productivity and restoring U.S. competitiveness in world markets.



The patent policy that is emerging through Administration initiative will not only enhance technology transfer of federally-funded technology to the private sector, but will foster a new atmosphere of cooperation between government, business, and universities. Greater commercial benefits will be realized from the billions of dollars of government-funded research and these benefits may be felt for generations to come.

FEB 24 1984