SUPA Announcement

USET is a start-up company fueled by private funding and incorporated in Delaware but conveniently housed in the Washington, D.C. area.

Our goal is to provide a comprehensive group of services to assist universities, federal laboratories and industry to facilitate their interaction in the management of technology.

One of our first actions has been to acquire two companies that have staffs trained in fostering that interaction. I think you are all aware of Carl Wooten's UTC which is now a component of USET. In addition, USET will shortly acquire the electronic information staff that developed and marketed the Telescan stock analysis program which has 20,000 users.

Initially our focus will be on enhancing the services provided by UTC to its clients, but we would be happy to hear from others who have an interest in that kind of service. In addition, we will be offering consulting services to industry who need assistance in negotiating cooperative R&D arrangements with the federal labs under P.L. 99-502.

In the future we will be offering an interactive electronic information system to our UTC client base and to anyone else wishing to manage their own technology and also assistance in new start-ups and further development based on ~~other~~ equity positions.

For more details please pick up one of our folders, but please note we will not be in our McLean, VA offices until after March 15.

We also invite you to an open bar and hors d'oeuvres in the Marlin Club which is shown on the hotel map of their grounds at 7:00 - 9:00 tonight to visit with the USET staff.

Contacts for Additional Information on Emerging Technologies

Issue	Contact	Agency	Phone No.
Advanced materials	Dr. Lyle Schwartz	NBS	975-5659
Electronics	Mr. Judson French	NBS	975-2220
Automation	Dr. John Simpson	NBS	975-3400
Biotechnology	Dr. Donald Johnson	NBS	975-4500
Computing	Dr. John Lyons	NBS	975-2300
Medical tech.	Dr. Harry Hertz	NBS	975-3145
Thin-layer tech.	Dr. Cedric Powell	NBS	975-2534
Cost of capital	Dr. Robert Ortner	OEA	377-3727
Tax incentives	Dr. Robert Ortner	OEA	377-3727
R&D consortia	Dr. Bruce Merrifield	OPTI	377-1984
Intellectual property	Mr. Michael Kirk	PTO	557-3065
Antitrust	Mr. Robert Brumley	OGC	377-4772
Product liability	Mr. Robert Brumley	OGC	377-4772
Business strategies	Dr. Bruce Merrifield	OPTI	377-1984
Export controls	Dr. Paul Freedenberg	ITA	377-1455

014-028

- o U.S. spends about 2.7% of GNP or R&D -- compares with about 2.5-2.6% for both Japan and Germany

- o Government funds or performs about half this work for tow major reasons -- military and civilian/economy needs.

- o Economy surged after two World Wars, in part because of wartime technology, e.g. jet engines, synthetic rubber, transport aircraft, radar, electronic miniturization, aluminium production, and penicillin (discussed later).

- o In a cold war, the U.S. economy is handicapped if it can not benefit from the unclassified technology as it is developed, rather than waiting for the war to end. 95% of DOD R&D is not classified, but much is not actively commercialized.

- o N.Y. Times article on competitiveness and Military R&D spending.

- o Commercialization -- bring technology to market in new products or processes.

  -- military needs -- secondary use (oil spill containment films for mosquito control)
  -- joint use (weld quality monitoring)

  -- civilian needs -- primary use (vaccines, seeds)

- o Look at civilian technology

  -- 1968 GAO report on medical products -- none based on NIH research.

  -- 2 types of technology -- Public domain information
  -- Intellectual property

- o Publish or perish, no reward for managing as intellectual property, thus no protection of commercialization investment against foreign or domestic copying.

- o Government technology dissemination programs like NTIS can even destroy commercial value of a technology.

- o NIH institutional patent agreements

- o Tale of penicillin vs. gene splicing.

- Types of performers of Government-funded research

  -- Nonprofit contractors at own site

  -- For-profit contractors at own site

  -- Federal laboratories
     - Government-operated
     - Nonprofit contractor operated
     - For profit operated

- 1980 Bayh-Dole Act, first legislation.

- OMB Circular A-124, first Commerce authority -- Stockman letter asked Secretary to extend principles of contractor ownership to all Government contractors.

- Principles

  -- Decentralize authority to manage technology as near as possible to originating organization that understands it best

  -- Provide incentives for inventors and their managers to identify and promote technology that would have commercial potential if protected and managed as intellectual property

  -- Provide private sector with property rights necessary to protect investment.

- Consistently resisted by patent attorneys of agencies with either Government-ownership statutes (NASA, Energy) or large patent attorney staffs (Navy).

UNITED STATES DEPARTMENT OF COMMERCE
National Bureau of Standards
Gaithersburg, Maryland 20899

December 15, 1987

MEMORANDUM FOR MOU Directors

From: David Edgerly D. Edgerly
Director, ORTA

Subject: Cooperative Research and Development Agreements

NBS is close to reaching agreement with the Department on the delegation of authority to enter into cooperative research and development agreements as called for in the Technology Transfer Act of 1986 (PL99-502). Before informing the Department of our plans, I wanted to give you the opportunity to review what is being proposed and to recommend changes you consider appropriate. The matter will also be discussed in a future Executive Board meeting.

There has been a lot of confusion and misinformation among agencies as regards what is necessary to comply with the Act. Part of this stems from a lack of experience by many agencies in working closely with industry. In the Bureau's case, where we have a lot of industrial experience, I am seeking a way to demonstrate compliance that will draw upon the experience and the procedures we already have in place for dealing cooperatively with industry. Listed below are the steps that I am recommending:

1. Include under the definition of Cooperative Research and Development Agreements:

   (a) Memorandums of Understanding or other forms of agreements between NBS and non-Federal parties (including industry consortia, universities, industry and trade associations) to do cooperative research

   (b) Research Associate agreements

2. Exclude from the definition of Cooperative Research and Development Agreements:

   (a) Procurement contracts

   (b) Visiting scientist (guest worker) agreements

   (c) Cooperative agreements with other Federal Agencies/Departments

   (d) Proprietary research agreements (Is $ handled ?)

   (e) Cost sharing agreements with non-Federal parties as outlined in sections 6303, 6304, and 6305 of Title 31 USC (sections of Federal Acquisition regulations)

   (f) Grants

   (g) Agreements (cost sharing) with other [illegible]

3. Adopt the following principles as NBS policy by amending appropriate parts of the Administrative Manual:

   (a) MOU Directors delegated authority to enter into agreements. It will be up to the MOU Directors to decide redelegations of authority below MOU level.

   (b) Delegatees can grant licenses or assignments to collaborating parties, and waive right of ownership to inventions subject to the Government retaining non-exclusive license to practice the patent.

   (c) Employees and former employees permitted to participate in commercialization of inventions they made and have the right of ownership to an invention for which NBS does not intend to file a patent.

   (d) In negotiating agreements, consideration will be given to small business and consortia involving small business firms, and preference will be given to business units located in the U.S. which agree that products embodying inventions made under agreements will be manufactured substantially in the U.S.

   (e) NBS inventors will receive 15% of invention royalties.

The Act requires that each agency maintain a record of all agreements, and permits the NBS Director the option of requiring that each provide for a 30 day period within which he can modify or disapprove the agreement. At present, my office reviews Research Associate agreements and maintains a record of them. I recommend that the same procedure be followed for all cooperative research and development agreements.

I believe that in taking the above steps, NBS will be in conformance with the Act without damaging the flexibility that characterizes our current programs for interacting with industry.

I will be in touch soon to get your comments, and am willing to meet with you at your convenience.

cc: Mr. Kammer
~~Dr.~~ Johnson
Dr. Heydemann
Dr. Smith

C 478-9700

SHARING ROYALTIES WITH FEDERAL INVENTORS

BACKGROUND

Congress is seeking to stimulate American innovation by creating greater commercialization of Federally-supported R&D. Presently the Government funds 50%-- or $55 billion annually-- of our R&D effort. Attention is focusing on the Federal laboratory system which now contributes little to our economic growth. Unfortunately, a small trade association is jeopardizing this effort to deflect attention from a few companies' internal management problems.

The object of this debate is legislation introduced in the House and Senate allowing federal laboratories to manage their inventions by licensing them and retaining royalty income. Because one-sixth of the U.S. scientists and engineers work in our federal laboratory system, performing more than $17 billion of R&D annually, it is important that this technology be successfully transfered to the economy. Universities have found that sharing royalties with their inventors is the catalyst making this technology transfer possible.

Intellectual Property Owners, Inc.--a small group of industry patent counsels-- reflecting fears of a segment of their constituents, are objecting to royalty sharing by federally employed inventors in legislation now under consideration by the Congress. IPO alleges that requiring royalty sharing for federal inventors (paralleling current law for university inventors) sets a precedent which will be applied to the private sector. Rather than a simple mechanism such as royalty sharing, IPO advocates a complex, bureaucratic "award system" under which Federal inventors would meekly petition Washington for some compensation for their discoveries commercialized by the private sector. Experience has shown that agencies trying to implement award schemes create only more bureaucracy with meager rewards to inventors and great expense to the taxpayer.

Ironically, the handful of companies driving IPO objecting to royalty sharing are not even interested in working with the federal laboratories and have little, if any, experience collaborating with universities sharing royalties! Rather, these companies reflect a 1950's top-down management style that feels threatened by employee incentives. These middle level corporate managers fear that the university success sharing royalties will be duplicated in the federal laboratories creating unrest within their own companies. Companies who have revitalized their corporate structure to reward productive employed inventors, or who have entered into collaboration with universities are not afraid of incentive systems in public research.

Japan and several European countries have enacted laws entitling all inventors-- both publically and privately employed- to an interest in their inventions calculated on the basis of the

circumstances under which the invention was made. Some American firms have had what they consider to be unsatisfactory experiences in their overseas units under these laws. IPO seeks to insure that such Governmentally-mandated incentive systems are not imposed on American private industry. Congress and the Administration have endorsed this position considering the foreign models an unwarranted Governmental intrusion in the private sector. However because of their fears, IPO feels threatened by royalty sharing even in universities and Federal laboratories. Federal laboratry managers simply want authority to reward their inventors and research staff comparable to private industry. Because of the strictures Federal technology managers operate under, options for rewarding employees for excellence available to the private sector are denied them.

The House Science and Technology Committee will soon take up legislation reported from Subcommittee minus royalty sharing for Federal inventors at the insistence of IPO . Unless changed, this will be a serious barrier to the federal laboratory system.

In order to commercialize the billions of dollars of technology in our laboratories, laboratory directors must have the same discretion to reward employees as exists in the private sector. Permitting royalty sharing meets this need according to all of the Federal agencies wanting to use the authorities of the legislation. Laboratory directors must also have the authority to reward other contributors to the invention in addition to the actual inventor. This also parallels avenues already available in the private sector.

The Senate Commerce Committee will soon begin deliberations on a companion bill based on S. 65 introduced by Senate Majority Leader Robert Dole.

The Dole bill and similar legislation introduced by House Minority Leader Robert Michel (H.R. 695), provides federal inventors a share of royalties returned to the laboratory from patent licensing. The bills are modeled on a 1980 law (Public Law 96-517) giving universities and small businesses ownership of inventions made under federal grants and contracts. This Act requires universities to share royalties earned with university inventors. Congress enacted this provision because willing participation of inventors is the core of successful technology transfer. This requirement was not placed on small businesses because Congress recognized that nonprofit institutions have special needs not applicable to the private sector.

Congress recognized that nonprofit inventors are hired to expand the frontiers of knowledge and that technology transfer is an addition to their primary mission. This is not the case in the private sector. Prior to the enactment of the 1980 law many universties feared losing some of the best basic research scientists because academic salary structures are not intended to

reward commercializing inventions. This is still true at Federally-operated laboratories. Royalty sharing has enabled many of the most creative minds to remain on campus performing basic research while being rewarded for their discoveries. Losing the best researchers is still a problem at the federal labs according to the 1983 Report of the White House Science Council headed by David Packard. In the report to President Reagan the Council found that "almost all of the Federal laboratories, both government-operated and contractor-operated, suffer serious disadvantages in their inabilities to attract, retain, and motivate scientific and technical personnel required to fulfill their missions. The principal disadvantage is the inability of the Federal laboratories, particularly those under the Civil Service system, to provide scientists and engineers with competitive compensation at entry and top senior level " (emphasis added). Royalty sharing is designed to meet this problem. With one-sixth of all of the research scientists and engineers employed at Federally-operated labs, the U.S. simply cannot afford to waste these creative people.

Congress also recognizes that the needs of the nonprofit sector are unique. University and federal laboratory inventors are under great pressure to immediately publish the results of their research for professional recognition. Such pressures do not exist in the private sector. It was to counterbalance this need-- which can destroy proprietary rights needed for commercialization by the private sector-- that royalty sharing was devised. Thus, university and federal employee royalty sharing actually protects the interests of industry!

Universities are now able to persuade many inventors to file patent applications at the same time as publishing research results so that patent rights, especially abroad, are not destroyed. This happy balance not only fully protects academic freedom, and encourages the free exchange of information so important on campus; it also protects the interests of the private sector and discourages foreign competitors from freely pirating U.S. taxpayer sponsored R&D. The result is that more jobs and important discoveries are developed here.

Rather than setting a precedent for private industry, these differences were again recognized in 1984 when the law was amended to include university operated Government laboratories. During the lengthy Senate and House debates over this measure no one suggested that the success of the university royalty sharing requirement was a precedent for the private sector. Indeed, legislation supported by the Administration sought to include big business Government contractors under the provisions of the 1980 law and again no one, not even opponents of broadening the law saw university royalty sharing as a precedent for private industry!

After 5 years experience universities overwhelmingly cite royalty

sharing as one of the cornerstones of their success in working with the private sector. Because of this interaction the United States holds a commanding lead in the development of biotechnology which originated at the universities. Countries such as Japan are seeking to duplicate our success in linking universities and the private sector.

Abundant evidence already exists that royalty sharing is directly connected to our successful industry-university interface. Schools such as the University of California and the University of Maryland are so convinced of the this linkage that they have raised the inventor's percentage to 50% of the receipts of licensing income! Many schools working on long range projects with big businesses, like that between Washington University in St. Louis and Monsanto, say that royalty sharing provisions have never been a problem in interactions with the private sector.

Experts in technology transfer from publically funded R&D to the private sector say for this interaction to be successful certain incentives must be present. Every player involved in the interaction must benefit, the inventing organization, the Government, and the private sector. But central to any success must be the <u>individual</u> whose creativity is the basis for the exchange. Indeed, rewarding individual inventors was the reason that the patent system was authorized in the Consitution under Article I, Section 8.

As the law now stands, inventors at universities and university operated Government labs share royalties while their counterparts in Federally run labs do not. Legislation must address this inequity or the flow of talented researchers at the Federal laboratories will increase.

By excluding the inventor from Federal lab legislation, a few industry patent counsels seek to turn the patent system on its head. The patent system thus becomes a bludgeon keeping inventors down rather than a stimulus lifting them up. Indeed, individual creativity is the keystone of American creativity. Misguided special interests like Intellectual Property Owners appear to view inventors as unpredictable elements who must be carefully controlled by corporate managers. Such a bureaucratic view of the creative people who individually create and change industries might make for smooth management, but it is inimical to innovation. Innovative companies, large and small, are constantly reviewing their management practices to insure that they stimulate, not discourage, innovators. The Federal Government must do the same.

We are on the brink of tapping into a tremendous source of basic and applied research unequalled in the world. The economic benefits will be staggering. Royalty sharing is the key for unlocking this tremendous resource, or of frittering away a priceless asset. The choice is clear.