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TO : Holders of DHEW Institutional Patent Agreements

SUBJECT: Information Item No. 5

Enclosed for your review is an excellent and useful presentation given by Niels Riemers, the licensing officer for Stanford University, before an audience of university research administrators.

Sincerely yours,

Norman J. Latker
Chief, Patent Branch

Enclosure

THE EVALUATION AND PATENTING OF UNIVERSITY INVENTIONS

I would like to preface my talk with an observation and a caution. The observation is that our licensing program is quite new, having started on a full-time basis only January 1, 1970. The caution is that you recall that observation and be aware that my comments are drawn from only a modest bank of experience. A further note of caution is that the approach we take in the evaluation and patenting of inventions is not without definite risk of losing the proprietary rights the inventor has deposited with us. This will be made more clear later.

Another point I would like to make now before proceeding is to suggest that the goal of bringing the research achievements of your institution forward to public use and benefit in a fashion which also brings in that much-needed unrestricted income has the best chance of success with an entrepreneurial and venturesome thrust. Avoid over-emphasis on the legal and housekeeping points of licensing--notwithstanding any contrary impression you might receive from the balance of this talk!

It is axiomatic that to be able to evaluate an invention, you must first be made aware of its existence. Perhaps the best method to stimulate disclosure of inventions is to make your research personnel aware of successful licenses which have already brought income to other researchers. Inventions are also identified and reported due to the contractual stimulation of invention reporting requirements of contracts and grants. Additionally, inventions are located by simply keeping in touch with your research community, reviewing technical papers, and by reading news releases.

Once identified, the use of proper invention reporting forms is helpful in your preliminary evaluation. For example, you may find the inventor has cited first publication in a year-old journal article which completely disclosed the invention. The patent bar will preclude licensing of that invention. While you can generally use your forms for reporting inventions, certain of your research sponsors may prefer following their own particular format.

Well now, however, it came to you, you have there staring at you on your desk some pieces of paper describing an invention which could just as well be written in Greek as far as your comprehension of it goes. Or you may understand what the inventor has written or drawn, but you haven't any idea if anybody needs it. Or how do you know if you can license an invention which improves a performance parameter of something by 50% but adversely effects another performance parameter by 10%?

We should at this point observe that most university inventions are at a very basic stage. You will generally be asking a company to make a costly, difficult, and risky decision to attempt to bring your discovery forward to a marketable product. And even when a discovery is of obvious fundamental importance, it will be often prudent for a company to wait until the rest of the technology catches up. I refer you to the NSF Traces study which tracks the path of technological development which led to important current products. Make no mistake--licensing inventions resulting from basic research is a tough job. But success is possible.

As the next step in evaluation of the invention, I recommend meeting with the inventor at his laboratory or office. Ask him the questions you would like answered to evaluate his invention. I usually first ask the inventor to describe the invention. He will generally

know the possible uses of the invention--and I should mention here the uses of a new discovery are not always obvious, even to the inventor. The inventor may often be able to compare his discovery to what is available in the marketplace and will also be able to identify possible licensee candidates. On the other hand, occasionally an inventor will have no idea of the commercial utility of his discovery. Very important to your evaluation, your meeting with the inventor will also serve to give you a feeling for the technological area of the invention.

You may find the total potential sales market for an invention is eventually to the Government and that the invention was derived from a research project that had a Government sponsor. Since the Government will have a royalty-free license to the invention, there is not much point to taking on the invention for licensing unless there may be a foreign market.

You may find too that while every laboratory similar to your inventor's will surely need his discovery, there may be a grand total of five such laboratories worldwide. A potential market should at the very least be enough to recover through royalties the cost of the patent and administering the license.

In some cases, you may not need to meet with the inventor to evaluate the invention. Regardless, I believe it is a good idea to maintain a close liaison with the inventor, keeping him informed of your progress, and he keeping you aware of technical developments relative to the invention and his planned publications covering the invention.

You may have obtained sufficient information thus far in your review of the invention/disclosure and meeting with the inventor to convince you to immediately file a patent. I find this is not often the case, but

it is certainly safest from the point of view of safeguarding proprietary rights.

Now that you have determined to accept the invention for further evaluation after talking with the inventor, what next? In most cases, you are ready for an evaluation by companies. Parenthetically, this is the risky part I told you about earlier. By not having at least filed a patent application before disclosing the invention to companies, you stand a chance that someone will beat you to filing, perhaps a company to whom you disclosed the invention. Although the inventor, according to U.S. laws, is the first to conceive rather than the first to file as in most foreign countries, one respected patent attorney advised me that in infringement litigation, he would take the first to file position anytime because of the burden of proof.

Before discussing the company evaluation process I use, let us examine alternative and safe means for evaluating an invention and then why I even consider taking a risk if these safe alternatives are available. The first presumption is that you are not, at least initially, utilizing the invention evaluation and development services of organizations such as Research Corporation and Battelle. These two competent organizations have the resources, capabilities and experience to handle university inventions, but to know more of them, as Priscilla said to John Alden, "I'll let them speak for themselves."

One simple alternative is to utilize experts in the field of the invention that you may have on your faculty or staff to evaluate the invention. If you have a multi-campus system, you may be able to obtain an evaluation by the inventors' technical peers at other campuses. To encourage a frank evaluation, you may consider keeping the identity of the inventor anonymous to the evaluator and vice versa.

Another alternative would be engage a consultant with appropriate qualifications to evaluate the invention. The consultant agreement here should include wording whereby the consultant would agree to maintain the invention as confidential.

A patent committee can also be utilized to evaluate inventions. You would on this committee have competent representatives of several technical disciplines (and use guest evaluators on occasion), a legal representative, a research administration representative, and an entrepreneurially-oriented individual from your business school. Many companies also use patent committees to evaluate inventions. This committee would meet periodically to evaluate inventions, as well as to cover other invention-related responsibilities which may form its charter. Inventors can be asked to personally present their inventions to the committee.

The evaluation output of these alternatives would typically be a decision to file or not to file a patent. Subsequently, with at least the protection of a patent application filing date, the licensing process would begin.

So why do I contact companies before filing when such safe alternatives are available? First, I confess I certainly take advantage of whatever university evaluation capability is available before contacting companies. In many cases, because of the narrow nature of typical university inventions, the inventor will very well know where his discovery stands technically, at least in regard to published data. Other evaluators are helpful most when they have some interface with the industrial community and the inventor does not.

Notwithstanding the fact you may have a favorable opinion of the invention based upon your evaluation steps to this point, it is not until you make contact with those who are not only aware of what it takes to develop your invention to a product but who are closely in tune with the dynamics of the particular market that you will get your most meaningful evaluation. In my opinion, and I've underlined opinion, it is unlikely a company would unfairly take advantage of the fact you have not yet filed. You are not a competitor to industry but a continuing source of technology with whom good relations can be important.

If you rely solely on internal or consultant evaluations, I suspect you will be incurring a substantial legal expense and delay (and the latter point of delay may be more important than one realizes in this era of rapidly changing technology) and low batting average in obtaining licenses. We have seen many seemingly fantastic inventions quickly brought down to earth after a brief chat with someone faced with the realities of the marketplace.

So, in spite of the risk, you decide to contact companies. Before getting the company evaluations, however, the appropriate companies must first be identified. You ideally want companies as licensees which both have the technical capability to develop the invention and who serve the markets where the invention may be sold. Of the two, the marketing match may be the most significant.

Now is the time for some research if the particular companies are not obvious or readily known from your previous contacts. Useful research tools include the Thomas Register, Dunn & Bradstreet Million Dollar Directory, Standard and Poors, Moody's Industrial Manual, WEMA Directory, Science Magazine Guide to Scientific Instruments, annual reports, investment surveys, and the various technical journals. Your business school library is often

a good source of research material.

As a minimum, information I find useful for each company is its address, telephone number, name and title of chief officers, annual sales, principal products, and technical strengths, if available.

The next step I generally follow in the evaluation and patenting of university inventions is to call or visit personally specific individuals at one or more of the companies identified as promising licensees.

It is from this preliminary interchange with those who compete in the marketplace that you will hopefully learn enough to determine the chances of licensing the invention and thus whether or not to file a patent application. In contacting the companies, you are also beginning the marketing phase. This is the topic of the next speaker so I will not dwell on that point.

The evaluation process just briefly described is not absolute. For example, you may find it worthwhile to obtain at least a patentability opinion from a patent counsel before contacting companies. Or you may wish to have a patent search as part of your evaluation. And you may file on occasion immediately after an invention's disclosure to you, and there <u>are</u> inventions like that!

And for some inventions, the evaluation process is never quite conclusive. With the publication date quickly approaching, you have a tough decision whether to file or not to file. Given the odds against receiving even any income, not to mention getting the invention licensed in the first place, the prudent course is probably not to file. On the other hand, it could be that particular invention is the one in 10,000 that will bring in barrels of money and solve all the financial worries of your institution. If you have the budget to take a flyer and are a

compulsive gambler, put your $1,000 or $2,000 down on a patent application. Again, given the odds, the choice in most cases would be to drop the invention. But, to reverse field on that one, it has been our personal experience ~~on~~ filing decisions have been too conservative and we are going to gamble a bit more in the future.

Having obtained a positive evaluation of the invention, you may not necessarily be ready to file a patent application. If you do not have staff patent counsel, seek out a good private patent counsel with a technical background which relates to the invention. Assuming the invention is patentable, it may be in order to have a patent search made before authorizing a patent application. Patent searches are normally done at the Patent Office Search Center in Arlington although there is limited patent search source material placed in 20+ public or college libraries located throughout the United States. Professional patent searches generally run from $50 to $150, and patent applications run from several hundred to several thousand dollars with a mean around $1,000-$1,500. Our practice is generally not to have a patent search.

Before authorizing the patent application, it is a good business practice to obtain an estimate of the cost of the patent from your patent counsel. A high patent cost with limited potential royalty income may lead to a decision not to file.

One parting comment that bears stressing is the need to move swiftly in the evaluation and patent filing process. There are several reasons. There is of course the need to beat the publication date to obtain maximum patent coverage. Also, many technological discoveries are ripe to be found within a short period of time by many researchers in the particular field and thus, it is important to precede other inventors in filing. Another reason for timely evaluation is derived

from a perhaps debatable opinion that success in obtaining a license for basic technology is often inversely proportional to the amount of time the new discovery has been known. In other words, this thesis holds: the longer the invention is on the shelf and available, the less may be your chances of licensing that invention.

This concludes my talk about the evaluation and patenting of inventions. There is not a distinct line of demarcation between our method of invention evaluation and licensing strategy which will now be covered by Mr. Young, the next speaker, but I hope I have not strayed into his presentation.