Background Paper on Licensing to Large Companies in the Physical Sciences
Jon Sandelin July 1999

Current Situation: Virtually all large companies in the physical sciences areas (e.g., semiconductor industry, telecommunications industry) do not voluntarily take licenses from universities. What licenses that exist are the result of litigation or the threat of litigation.

The reasons for this are quite sound:

1. Large companies in the physical sciences areas tend to deal in very competitive high volume, low profit margin products where any earned royalty is a serious burden.

2. These industries have enormous numbers of engineering patents, as the companies need large patent portfolios for defensive (cross-licensing) purposes. Every year the companies awarded the most patents by the USPTO are in these industries. If a company starting licensing university (or other company) patents, where would it stop , as Stanford, MIT, UC Berkeley, etc, etc have or can generate many patents in these areas?

3. They do not need to license to acquire technology. It is readily available through industrial affiliate programs, hiring of graduated students, consulting by faculty, etc.

4. They have large (expensive) legal staffs that can seek ways to invalidate patents if necessary.

5. They have large R & D departments (with perhaps some Stanford PhDs) that can find ways to engineer around problematic patents.

6. If a large company does take a license, it may then induce litigation against others, as the licensor will be required to enforce patent rights, and this can draw the licensee into an unwanted litigation situation.

This is probably not an exhaustive list, but I believe it provides an understanding why Stanford (and other universities) have very few, if any, licenses to large companies in physical sciences industries. OTL has sent out dozens (maybe hundreds) of invention disclosures to such large companies, and to my knowledge, none have ever resulted in a license.

OTL History: Because large companies do not take licenses, OTL has licensed physical science inventions to small and medium sized companies, or sometimes

to start-up companies. These companies need an exclusive licensing position as one factor in attracting or justifying investments for product development and marketing. We have licensed the IGBT patent to several large companies, but that was only after difficult litigation followed by very extended negotiations where the responses from companies were not pleasant (e.g., Motorola).

What do Large Companies Want?: Large companies in the physical sciences areas are aware that universities like Stanford are creating significant numbers of patents in their existing or future product areas, and the potential infringement of at least some patents is very likely. Stanford policy of sending lists of available technologies to Affiliate Program Members may be increasing this awareness.

Stanford's recent litigation of the IGBT patent may also have increased concerns among large companies about vulnerability to patent infringement litigation.

So, what I believe large companies in the physical sciences areas want is protection from patent infringement litigation [Note: Patent litigation is considered to be one of the most costly forms of litigation, with expected costs through a trial potentially amounting to millions of dollars]. Even to investigate to determine if infringement is likely can be costly. And if a determination is made that infringement is likely and settlement is the best alternative, then large companies prefer a fully paid-up license, with no earned royalties.

What are They Willing to Pay? This is, of course, the key question. It would be related to what they judge their potential risk to be and the breadth of the protection they receive. The payments would probably be of two forms: (1) an annual payment to maintain the agreement (in the range of $10,000 to $100,000) and an agreed upon amount for a fully paid-up license (in the range of $100,00 to $500,000). The amounts should be set to encourage companies to accept the agreement and to take a paid-up license if the parties agree infringement is likely [Note: even if evidence of infringement is overwhelming, you never know what a jury will decide].

A Proposal: In my opinion, the agreement should be for five years, but be renewable following a review of experience under the agreement. The annual payment would be $50,000 for companies with annual sales greater than $25 Million and $25,000 for all others. The cost of a paid-up non-exclusive license, if Stanford can grant a license (i.e., has not granted an exclusive license to the patent) would be $250,000.

Stanford could still grant exclusive licenses to small firms and start-ups, to encourage development of new products and create associated economic

benefits. I do not believe this would be an issue for large companies, as small companies do not have the resources to pursue patent litigation and/or can be acquired if they have developed the invention to a useful point.