Determining Reasonable Royalty

BY WM. MARSHALL LEE*

The proper royalty is fair to both parties, but forecasting fairness is more art than science

The purpose of this talk is to explore proper valuation of technology in a licensing context. In other words, what should the licensor get by way of return and what should the licensee pay in order that each achieves a good business arrangement.

For ease of presentation I shall stick mostly with the license context in which the licensee is a manufacturer and the licensor provides the technology but does not commercially exploit it. I am not going to be talking about joint-venture arrangements or sale of technology.

In order to more readily focus on determination of the value of the technology I plan to speak in terms of running royalty measured as a percentage of some readily determinable base such as the licensees' net sales of products produced in accordance with the technology being licensed. I shall not deal with accounting complications such as upfront payment, minimums, escalators, volume discounts, present value, future value, etc. Such complications tend to make it more difficult to pinpoint the overall value of the technology being offered for license.

I emphasize at the outset that the proper royalty is a royalty that is fair to both the licensee and the licensor. In other words, it should achieve what licensing practitioners like to call a "win-win" situation in which the licensor receives payments that provide a satisfactory reward, and the licensee prospers because the selling price, which includes the royalty, does not dampen the enthusiasm of purchasers for the licensed product. This is the ideal situation and is what both licensees and licensors should be shooting for.

The Proper Negotiating Royalty From the Licensor's Standpoint

The prospective licensor will be naturally enthusiastic about the potential of the technology that he or she is offering for license, and interest shown by the prospective licensee tends to heighten the licensor's expectations. How much should he or she ask as royalty negotiations commence? Obvious overreaching is poor strategy. But asking too little is equally bad. The licensor should seek a fair return on the technology that he or she has devised. How much is that? A fair return is a proper share of the profit the licensee is anticipated to gain from use of the technology. Please notice the emphasis on profit. In my judgment, proper sharing of anticipated profit is the key to any successful technology transfer arrangement. This viewpoint seems to be shared by most experienced licensing professionals. If no profit is anticipated, negotiation is a waste of time. Please note that I am not talking about profit anticipated from day one of the technology transfer arrangement, but rather anticipated overall profit over the projected life of the arrangement. What is a proper share of the profit? Let's develop that.

The Royalty the Licensee Should Offer to Pay

On the other side of the transaction, the prospective licensee's interest in the technology being offered must be tempered with reality. The licensee faces expenses and uncertainty. Profit may be delayed for a year or more down the line, or may never be achieved. On the other hand, if the technology offered by the licensor provides a good opportunity for profit, the licensee should be prepared to offer a royalty that amounts to a decent portion of the anticipated profit (even though potential profit level need not be expressed). The viewpoint that the licensee should be willing to pay the licensor a decent portion of the anticipated profit also appears to be shared by most licensing professionals. The question is, of course, what is that decent portion of the profit the licensee should be willing to pay to the licensor? Again, let's hold that for exploration.

Use of the Profit Base for Royalty Measurement

To develop use of the profit base for royalty purposes let me start with my own experience in licensing, which commenced in the 1950s as an adjunct to patent prosecution for a multifaceted corporation. Much dealt with licensing-in, although there were also a number of instances of licensing-out.

After getting my feet wet in licensing in corporate practice, I moved to private practice and got involved in patent infringement litigation on behalf of both plaintiffs and defendants. I learned that most infringement litigation ended in settlement, and settlement usually entailed a license. Aside from the culpability question involved in infringement litigation, I also learned that a plaintiff/licensor cannot expect to exact a royalty from a defendant/licensee unless the licensee can make a profit in exploiting the licensed technology. I learned that the same principle of profit motivation applied then, and still applies, to

*Lee, Mann, Smith, McWilliams, Sweeney & Ohlson, Chicago, Illinois; paper presented at the Denver, Colorado, local LES meeting, March 1992.

licensing negotiations outside of lawsuits. Thus, when negotiating settlement for a prospective licensor I sought and still seek an ample part of the licensee's anticipated profit. When acting for a prospective licensee in settlement negotiations I sought then and continue to seek to limit payment to a lesser part of the licensee's anticipated profit.

Was the matter of profit splitting expressed during negotiations in my earlier licensing experience? Hardly ever. The negotiations usually started at a royalty rate that was considered usual or customary in the particular industry. It was understood that a profit must be made, but mention of the probable level of profit was usually taboo. In current licensing negotiations, however, there seems to be less reluctance to make reference to anticipated profit and the portion of that profit that the licensor might be entitled to.

Even though the licensor and the licensee may ultimately agree on a royalty rate that is determined, at least tacitly, as a certain percentage of the licensee's anticipated profit in exploiting the technology, I do not recall having seen a license agreement in which royalties are expressed in terms of profit in the agreement itself. Instead, royalties are expressed as a percentage of a more readily determinable base, such as a percentage of the licensee's net sales of products employing the licensed technology.

Two Important Court Decisions Bearing On Reasonable Royalty Determination

There are many court decisions relating to patent infringement damages and reasonable royalty considerations. As a preface to consideration of two important decisions, which I shall highlight, we should keep in mind the pertinent portion of the patent damage statute, 35 U.S.C. 284:

"Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement but in no event less than a reasonable royalty for use made of the invention by the infringer..."

It must be recognized that a reasonable royalty determined by a court after a trial does not necessarily equate to a reasonable royalty achieved during arm's-length, good-faith license negotiations (thus avoiding the necessity for the lawsuit). It is clear from court decisions involving patent infringement that an infringer should pay more than a willing licensee. *Panduit Corp., v. Stahlin Bros. Fibre Works, Inc.*, 575 F.2d 1152, 1158 (6th Cir. 1978); *Fromson v. Western Litho Plate and Supply Co. et al.*, 853 F.2d 1568, 1574-1575 (Fed. Cir. 1988). Determination of a reasonable royalty in a court case might yield royalty rates somewhat higher than royalty rates for the same technology achieved through arm's-length negotiations between a willing licensee and a willing licensor.

For a comprehensive listing and synopsis of reported patent infringement decisions and the royalties determined to be reasonable I suggest that you refer to Chisum, *Patents*, §20.03[3][d]. Chisum's case analysis summarizes reasonable royalty decisions from 1915 to almost the present.

The first of the two important decisions on the subject of reasonable royalty determination to which I have reference is a much-cited and relied upon case from the U.S. District Court for the Southern District of New York, *Georgia-Pacific Corporation v. United States Plywood Corporation*, 318 F.Supp. 1116 (S.D.N.Y. 1970), affirmed in principle on appeal at 446 F.2d 295 (2nd Cir. 1971). The main reason for the popularity of *Georgia-Pacific* is the District Court's comprehensive list of factors to be considered in determining the reasonable royalty question. The last of these listed factors, No. 15, bears repeating here because it sets forth the essence of a win-win royalty determination:

> *15. The amount that a licensor (such as the patentee) and a licensee (such as the infringer) would have agreed upon (at the time the infringement began) if both had been reasonably and voluntarily trying to reach an agreement; that is, the amount which a prudent licensee—who desired, as a business proposition, to obtain a license to manufacture and sell a particular article embodying the patented invention—would have been willing to pay as a royalty and yet be able to make a reasonable profit and which amount would have been acceptable by a prudent patentee who was willing to grant a license. (318 F.Supp. at 1120).*

I do not mean to downplay the other 14 reasonable-royalty factors recited by the court in *Georgia-Pacific*. They are important, real-world considerations that prospective licensees and licensors do indeed analyze and rely upon in determining the overall value of the technology proposed for licensing. Licensing practitioners take the *Georgia-Pacific* factors into account in negotiating licenses, and expert witnesses often draw heavily upon these factors in court testimony dealing with reasonable royalty determination. However, in the interest of pursuing my theme as to the use of anticipated profit in the proper measurement of reasonable royalty I shall leave *Georgia-Pacific* for the moment, but with the suggestion that you consider its enumerated factors as a partial checklist in licensing considerations.

The second important decision is the patent infringement damages phase of the instant photography case, *Polaroid Corp. v. Eastman Kodak Co.*, 16 USPQ 2d 1481 (D. Mass. 1990), amended slightly at 17 USPQ 2d 1711 (D. Mass. 1991). You will probably recall that the Massachusetts District Court had earlier enjoined Eastman Kodak's sale of instant photography equipment pursuant to a finding that Eastman was infringing several patents owned by Polaroid. In the fall of 1990, the court comprehensively addressed the matter of patent infringement damages and awarded Polaroid over $900,000,000 in damages, including lost profits, reasonable royalty and prejudgment interest. The decision is essentially an up-to-date, well-reasoned hornbook on the matter of patent infringement damages. As to the reasonable royalty portion of the award the court stated:

> "I conclude Polaroid and Kodak would have negotiated in good faith and, taking into account all of the information available to both sides, would have agreed upon a royalty of ten percent, or **slightly more than sixty percent of Kodak's anticipated profits** through 1986 on those sales of camera and film

on which lost profits were not sufficient or could not be proved." (16 USPQ 2d at 1535). (emphasis added).

In consideration the impact of the *Polaroid v. Eastman* case it must be kept in mind that the reasonable royalty portion of the award, which totaled over $200,000,000, was determined in a litigation context. Although the court did not flat out state that it had doubled the percentage of Eastman's profit to be awarded to Polaroid as a reasonable royalty, I believe that this is about what it did. A clue to this is the court's refusal to find that Eastman's infringement was willful; to do so would have made the award astronomical.

What Is A Proper Royalty In Terms Of The Licensee's Anticipated Profit?

In the instant photography controversy prior to the decision of the court on patent infringement damages, the news media had been indulging in speculation as to what the damage award against Eastman might be, mentioning figures of two and three billion dollars as probable. The court could well have gone that high, particularly if it had determined that Eastman's infringement was willful. In fact, after the determination of "only" slightly over $900,000,000 in patent infringement damages, Eastman was reportedly somewhat relieved and Polaroid was reportedly disappointed. As to the reasonable royalty award, I believe that the forthright position taken by Eastman's expert witness saved the day for Eastman. In reaching its decision awarding Polaroid slightly more than 60% of "anticipated profits" as a reasonable royalty, the court expressly recited with apparent approval testimony by Eastman's expert witness "that, in his experience, a royalty rate that provides the patent holder with one-quarter to one-third of the licensee's anticipated process [sic, profit] is fair." (16 USPQ 2d at 1534)

In stating that a reasonable royalty should amount to 1/4 to 1/3 of the licensee's anticipated profit, Eastman's expert was not indulging in conjecture. This is indeed a rule-of-thumb used by a large number of experienced licensing practitioners.

In 1982, the Licensing Executives Society (USA and Canada) published what I believe to be an authoritative treatise on licensing entitled "The Basics of Licensing." In 1988 this booklet was republished essentially without change except for the addition of an "International License Negotiating Thesaurus." Many if not most of you are probably familiar with this LES booklet. Under the heading "How Do I Determine the Value of My Invention or Idea?" this booklet states the obvious, that determination of value is one of the most difficult questions in licensing, and then recites the rule-of-thumb for determining royalty rates: "In general, a license royalty should not be so high that it reduces the profit margin of the licensee below his traditional level. Many licensing executives use a rule-of-thumb which is that 25% to 33⅓% of the saving of a new process, or 25% to 33⅓% of the profits of a new product should go to the licensor. This split recognizes that the licensee typically assumes greater financial risk in commercializing the technology."

The LES booklet goes on to briefly recite some of the factors that bear on the level of royalty that might be expected. It should come as no surprise that these factors are to a large extent simplified synopsis of the factors set forth in the *Georgia-Pacific* case. Incidentally, in case you do not have a copy of the LES booklet, one can be obtained from LES, 71 East Avenue, Suite S, Norwalk, Connecticut 06851-4903.

An earlier treatise that also mentions royalty based upon profitability is "Determination of a Reasonable Royalty in Negotiating a License Agreement: Practical Pricing for Successful Technology Transfer" by Marcus B. Finnegan and Herbert H. Mintz, copyright 1978 by Clark Boardman Company Ltd. and published by Clark Boardman in *The Law and Business of Licensing*. Finnegan and Mintz state what is often referred to as the "25% rule": "While the percentage may be variable depending upon the facts, there is fairly common acceptance of a figure 25 percent of the profits earned by the licensee as a reasonable royalty to the licensor." (*The Law and Business of Licensing*, 1978, 3D-3 at 3D-17)

The "25% rule" is sometimes a little indeterminate as to whether it refers to 25% of net profit or 25% of gross profit (if you represent the prospective licensor, then of course you apply the 25% against anticipated gross profit; if you represent the prospective licensee, you contend that the 25% applies to net profit!). Note that the indefiniteness as to whether the "25% rule" speaks to net profit or gross profit brings it somewhat in line with the rule of thumb of 1/3 to 1/4 of profit as a reasonable royalty as expressed in the LES booklet. Finnegan and Mintz also point out that license agreements rarely express royalty as a percentage of the licensee's profits. Instead, they state that the better practice is to estimate royalty in terms of anticipated profit and then express that royalty in the agreement as a percentage of the licensee's sales. (*The Law and Business of Licensing*, 1978, at 3D-18)

Another article relating to use of profits in calculating reasonable royalty is "Turning Patents and Technology Into Money" by Larry W. Evans, appearing in *Licensing Law and Business Report*, copyright Clark Boardman Company, 1979. In his article, Mr. Evans states: "The technique I recommend to you, and the only one I believe makes sense, is the 'share-of-the-anticipated-profits' technique. This technique should be applicable to all situations whether they concern patents, trademarks, know-how, or all three. To be most efficient, you should often make use of your commercial development department. A detailed "discounted cash flow" calculation in which the market, selling price, costs, etc., are determined and from them the gross annual profit and rate of return can be calculated. Then you apply a factor to the profit of, for example, 1/4 to 1/3. Perhaps in those industries where the profit margins are tight but volumes are great, you may apply a lower factor, e.g., 10 to 15%. In a high-margin business, something closer to 30 to 35 percent may be reasonable." (*Licensing Law and Business Report*, October 1979, page 153).

Lest it be thought that the rule-of-thumb of 25 to 33-1/3% of net profit as the usual range of a reasonable royalty is purely a Western Hemishere concept, I suggest you look at "Determining Reasonable Royalty Rates" by Yoshio Matsunaga, Licensing Manager of Hitachi Ltd., Tokyo. The article appeared in the December 1983 issue of *les Nouvelles.* However, from the editorial notation at the end of the Matsunaga article it appears that it was first published in Japan, in Japanese, in 1976. Mr. Matsunaga states in his article: "Since the licensor is to receive the dividend of profit merely through the furnishing of technology without investment, its profit should naturally be smaller than the profit to be gained by the licensee which takes the risk of investment. Excluding special cases, the profit receivable by the licensor is generally accepted as reasonable if it is in a range from a quarter to one-third of the profit resulting from the exploitation by the licensee." (*les Nouvelles,* December 1983, page 216).

Finally, I make reference to a recent book by Edward P. White entitled *Licensing — A Strategy for Profits,* copyright 1990 by the Licensing Executives Society (USA and Canada). This excellent book deals principally with the business aspects of licensing. In Chapter II "Royalty and Other Compensation," Mr. White states: "A 'rule-of-thumb' sometimes used for the pricing of licenses is '25-35% of estimated profit' or '10% of capitalized cost' or a combination of the two. Such systems are likely to be workable. At worst they offer a starting point. However, it is very much preferred to have some logic better than the fact that others do it this way." (*Licensing — A Strategy for Profits,* page 104).

In Chapter II Mr. White also elaborates on a number of the factors that bear on the value of technology being offered for license.

My View on the Rule-of-Thumb

As I said, in the earlier years of my experience industry norms tended to be the license royalty level at which the licensee and the licensor commenced negotiations. In highly competitive industries, such as the automotive field, prior industry experience on royalty rates was usually considered by the licensees as the ceiling, and negotiations downwardly were the order of the day. Automotive companies and automotive suppliers argued then and still argue that high anticipated volumes call for very low royalty percentage rates. The biggest reason for such low percentage royalty rates in the automotive field, however, was and still is the enormous economic disparity between automotive giants as prospective licensees and individuals and small companies as prospective licensors. Aside from automotive licensing, however, the rule-of-thumb that about 1/4 to 1/3 of the licensee's anticipated profit should go to the licensor is realistic.

In my experience, direct discussion of the level of the licensee's anticipated profit rarely enters into the negotiation, but it is very much on the minds of the negotiators on both sides. In representing the licensor (and with help from my client), I have tried and still do try to make an educated estimate as to the likely profit level of the license. In representing the prospective licensee, more help is usually available in estimating profit level, but even then a great deal of conjecture is involved. No matter how much the accountants estimate or the marketing experts surmise from marketing studies, determination of profit levels and customer acceptance is still more of an art than a science, particularly when the licensed product is to go to consumer markets as distinguished from industrial markets.

In most situations when representing a licensor, I do indeed shoot for about 1/3 of the licensee's anticipated profit. Sometimes, circumstances dictate seeking a higher percentage of the profit, but my experience has been that seldom is more than about a third of the projected profit achievable by way of royalty. In a few instances I have seen royalty rates achieved that appear to amount to greater than 1/3 of the licensee's projected profit, but this was in relatively rare instances where very strong patent protection existed and the likelihood of customer acceptance was very high.

When negotiating on behalf of the licensee my tendency has been and is to negotiate from a level no higher than about 1/4 of the licensee's anticipated profit, still recognizing that the licensor should be fairly compensated. It is entirely realistic and proper to point out when representing the prospective licensee that the licensee assumes the manufacturing and marketing risks and faces the greatest financial risk in commercializing the technology. A realistic licensor must recognize this fact of life and therefore must ordinarily be prepared to accept a lower percentage of the profit than the licensee.

Consideration of Various Factors Influencing Royalty Rate Level

Since technology licensing ultimately boils down to the devices and desires of human beings, many factors influence license royalties. A number of the following factors are well to keep in mind during license negotiations. The list is not intended to be exhaustive.

• As mentioned earlier, the licensee usually puts emphasis on the history of royalty rates in the particular industry. It appears that industry royalty rates are less important today than they were a number of years ago, particularly since the establishment of the U.S. Court of Appeals for the Federal Circuit on October 1, 1982. Whereas patent validity was often in considerable doubt prior to the advent of the Federal Circuit, the reverse is true today: that is, chances of patent invalidation are much more remote. Further, predictability of the outcome of possible patent infringement litigation has been greatly enhanced since establishment of the Federal Circuit. Since predictability and stability are highly desirable from a business standpoint, this is good for the licensee and the licensor alike.

• Another facet of royalty rate experience comes into play if the licensor has previously licensed the same or similar technology to others. Ordinarily, the prospective licensor can make a good argument that acceptance of lower rates would be damaging. This is not always the case, however, if the prospective licensee is a much higher volume producer than existing licensees.

• Of course, current commercial success of the product covered by the technology offered for license has a high level of importance in licensing negotiations for both the licensee and the licensor. If high profitability of the licensed product is established, the level of royalty acceptable to the licensee tends to be higher.

• A somewhat related factor is the degree of improvement afforded by the technology being offered for license. If the level of improvement is great compared to older technology for essentially the same purpose, the level of royalty tends to be higher.

• The extent of patent protection available for products to be manufactured under license is a very important factor in determining royalty level. If only a minor portion of the product is protected by patent coverage, the royalty tends toward the low side. On the other hand, good patent coverage of the entire product or vital portions of the product tends toward a royalty on the higher side.

• If the license being offered is exclusive, the royalty tends toward the high side. The reverse is true if the license offered is nonexclusive.

• Restrictions as to territory or fields of use tend toward royalty rates on the lower end, while fewer restrictions of this character tend toward higher royalty rates.

• An important factor is the "draw effect" of the sale of products covered by the licensed technology. If sale of the products covered by the licensed technology tends to enhance sales of other products of the licensee, overall profitability is ordinarily enhanced and a higher level of royalty can be anticipated.

• Disparity of economic power between the parties is still a significant factor in respect to the level of royalty rates. Despite the salutary effects on patent validity brought about by the Federal Circuit, great economic disparity still tends to favor the more economically powerful party, whether it be the licensee or the licensor.

• If the prospective licensee and licensor are competitive manufacturers, the licensor ordinarily holds out for a relatively high royalty level. Otherwise, the licensor will shy away from licensing and instead rely on its manufacturing profit.

• The term of the proposed license and the remaining life or lives of a patent or patents encompassed in the license are important factors to be taken into account. Usually, longer remaining patent protection tends toward higher royalty rates.

• The wise prospective licensee takes into account the level of cost that might be entailed in designing around patented technology offered for license. The higher the cost of designing around, the higher the royalty rate the licensee is ordinarily willing to pay.

• Often, manufacturing knowhow offered with patented technology is an important factor in determining royalty rate level. If the licensor can offer "turnkey" technology, the licensee is usually willing to pay more.

• The length of time anticipated to be involved in achieving manufacturing capability of the licensed technology is an important factor. Although a long development period tends toward a lower royalty level, this tends to be offset if the ultimate expectation of profit is high.

The list of factors to be taken into consideration can go on and on. What it all seems to boil down to is, "Can a substantial profit level be anticipated by the licensee, are the costs and delays in commercializing high or low, and is the market for the licensed technology real or illusory?"

Conclusion

I leave you with the thought that in most instances the rule-of-thumb of approximately 1/4 to 1/3 of the licensee's anticipated profit to go to the licensor is a good starting place for negotiations. Whether or not anticipated profit is expressed during negotiations, the effect of royalty on profitability should certainly be in the minds of the negotiators on both sides. My experience, and apparently the experience of others, tends to show that most successful licensing arrangements end with royalty levels in this range. However, like all rules-of-thumb, circumstances alter cases.

In my judgment, realistic fairness on both sides is the best policy. If the technology being licensed is good and the parties are fair with one another, the project will be a success.