

The Demise Of Junk Science And The 25% Rule

Law360, New York (July 28, 2010) -- A patent owner whose intellectual property has been infringed is entitled to minimum compensation of a “reasonable royalty for the use made of the invention by the infringer.” Much of the current interest in patent reform appears to arise out of a widely held belief that many awards based on supposedly reasonable royalties have been excessive.

Some of these awards have resulted from the use of methods that have no rational, scientific or business basis but are merely rules-of-thumb applied using ad hoc techniques. Such awards are also wildly unpredictable, unnecessarily increasing business uncertainty and making it difficult for attorneys to advise their clients on litigation and settlement strategies.

However, several recent decisions by judges of the U.S. Court of Appeals for the Federal Circuit (such as *Cornell v. Hewlett-Packard* and *Lucent v. Gateway*) indicate that courts will increasingly reject these methods, and instead require the use of logical and rigorous business and economic methods in the calculation of royalty rates.

To meet the higher standard, courts should reject unscientific methods in pretrial rulings on Daubert motions, in verdicts or in post-trial judgments as a matter of law.

Probably the leading example of an irrational, ad hoc method to calculate a reasonable royalty is the so-called 25 Percent Rule. In a 2002 article, a leading proponent of this rule defined it as suggesting “that the licensee pay a royalty rate equivalent to 25 percent of its expected profits for the product that incorporates the IP at issue.” (Robert Goldscheider, John Jarosz and Carla Mulhern, “Use Of The 25 Per Cent Rule In Valuing IP,” *Les Nouvelles*, Volume XXXVII No. 4 (December 2002): pp. 123-133.)



Alan Cox



Stephen Rusek

The Rule Is Not Based on Rational Economic or Business Principles

As the U.S. Supreme Court made clear in *Daubert* and *Kumho Tire*, a methodology used by an expert witness in litigation must meet certain criteria of technical rigor including testability, peer review, the provision of error rates and acceptance in the relevant scientific community.

The 25 Percent Rule fails these criteria. It has not been derived from the application of principles of finance, business or economics, but is merely developed from a sample of licenses from “one of [the author’s] clients, the Swiss subsidiary of a large American company.”

In contrast to the manner in which the rule is often used, the company licensed bundles of intellectual property, including a portfolio of patents, know-how, trademarks, and copyrighted material (p. 123). A review of a single company’s licenses of a portfolio of intellectual property does not provide an adequate empirical test of the validity of the 25 Percent Rule, for reasons that we discuss below.

The authors do attempt to test the rule on other data, but as we describe below, that data is also inadequate as an empirical test of the Rule and fails to predict royalty rates. Thus, the derivation of the rule and its application demonstrate little, if any, of the methodological rigor described in *Daubert* and *Kumho Tire* and apparently being sought by the Federal Circuit.

In fact, using the rule to predict the final royalty (or even the starting point for negotiations) for a specific asset contradicts both fundamental business principles and some basic implications and predictions of generally accepted theories of economics and finance.

For example, rational businesses will not pay more for an input than the incremental benefit that the input provides. Similarly, a business will not pay more for a patent than the additional profit that will result from using the patent.

The 2002 article itself provides a demonstration of the disconnect between the 25 Percent Rule and this economic reality. In Figure 1 of the article the authors illustrate the proposed application of the 25 Percent Rule.

In the example, a product generating profits of \$30 without a patented feature generates profits of \$40 with a revenue-enhancing patented feature. Under the 25 Percent Rule, royalties rise from zero without the patent to \$10 ($=\$40 \times 25\%$) for use of the patent.

In other words, the entire incremental value generated by use of the patent is paid back to the patent holder. As a result, the licensee is in the identical position, in terms of profitability, as if it had never licensed and incorporated the patented feature into its product.

The irrationality of the 25 Percent Rule is even more obvious if one goes through the same example provided by the authors but with the patented feature resulting in an increase of \$6 in operating profits (\$30 to \$36).

In that case, the 25 Percent Rule predicts a royalty of \$9 ($=\$36 \times 25\%$). Thus, the royalty is greater than the \$6 incremental benefit generated by the patented feature. The licensee is actually made worse off by licensing the patent. No rational licensee would agree to such a royalty.

The Rule Is Not Supported by Reliable Empirical Evidence

Proponents of the 25 Percent Rule have failed to provide any reliable empirical evidence to support its existence and justify its use. For example, the cited empirical analyses are based on information from licenses that were not

randomly selected. Statistical inferences of the reliability necessary to satisfy scientific criteria for awards of damages cannot be made from such data.

The licenses that supposedly provided original empirical support for the 25 Percent Rule were negotiated in the late 1950s. This sample of licenses falls far short of providing a scientific basis for applying the rule to all licenses in all industries at all points in time.

- Only a single licensor was sampled. A sample consisting of a single data point is not large enough to draw reliable conclusions. (While there were 18 licenses for this single licensor, this is an example of cluster sampling, where the high correlation between data points within the same cluster means that there are not 18 independent observations.)

- The licenses were exclusive and the derivation of the rule does not account for this feature of the license.

- The licenses are for a bundle of intellectual property. As some commentators point out, this means that the rule should be applied to all intellectual property incorporated into a product. However, the rule does not provide any guidance as to how profits are to be divided among these assets.

This is particularly problematic as damages expert witnesses have often used the 25 Percent Rule for a single patent or small subsets of the intellectual property in a product. Indeed, this was the case in *i4i v. Microsoft*, where the 25 Percent Rule was invoked for a single patent that related to a single feature of the feature-laden Microsoft Word program. Such an application of the rule would result in the exhaustion of expected profits if there were four or more patents.

- The licenses are for different geographic markets. No adjustment is made to account for the possibility that some licensees may operate in geographic markets with different degrees of competitiveness.

The 2002 article also cites evidence based on royalty rates for intellectual property licenses from the late 1980s to 2000 obtained from Royalty Source. These are compared with operating profit margins for licensees from 1990 through 2000.

In common with the selection of the single American company, the licenses used in this analysis were not selected using scientific sampling techniques. There is an obvious source of sample selection bias since Royalty Source gathers data on licenses of publicly traded companies generally disclosing material information.

Because higher-valued licenses are more likely to be considered material they are also more likely to be reported. The empirical analysis suffers from other issues, as well:

- The different terms of the licenses are not taken into account. Such terms include exclusivity, the geographic market, the type of intellectual property being licensed, and whether there are multiple forms of intellectual property being licensed.

- The economic conditions of the parties to the licenses are not taken into account. A particularly important omission is the viability of noninfringing alternatives, because no rational licensee would pay a royalty that exceeded the incremental benefits provided by the intellectual property above those provided by the next-best alternative.

- The operating profit margins used are those of the entire company rather than just the profits generated from the licensed product itself.

- The authors do not provide enough information regarding their data to allow a determination of the reliability of the results or to derive the rate of error.

Even on its own terms, however, this empirical analysis does not support the use of a 25 percent allocation of profits to the licensor. The analysis indicates that royalty rates as a percentage of operating profit vary considerably across licenses.

For example, the percentage ranges from a low of minus 3 percent for the media and entertainment industry to a high of 492.6 percent for the Internet industry. Within that range, other notable results included a profit split of 8.5 percent, 34.4 percent and 51.3 percent, for the semiconductors, computers and electronics industries, respectively.

In fact, only four of the 15 industries have royalties as a percentage of operating profit within +/- 5 percent of 25 percent.

Thus, not even the proponents' empirical evidence provides support for the use of a 25 Percent Rule. The large variation across industries demonstrates that applying an average to all situations even as an initial estimate can lead to very large inaccuracies.

This variation is not surprising given the differences that exist across industries in terms of the amount of intellectual property being licensed, the viability of noninfringing alternatives, competition, profit margins and other considerations.

The Rule Can Lead to Unbalanced Applications of Georgia-Pacific

Finally, the use of the 25 Percent Rule often leads to an unbalanced implementation of the Georgia-Pacific factors for determining a reasonable royalty in litigation.

According to its proponents, the rule applies most appropriately to factor 13, the "portion of the realizable profit that should be credited to the invention as distinguished from nonpatented elements, the manufacturing process, business risks, or significant features or improvements added by the infringer."

The typical procedure used by the proponents of the rule is to calculate a royalty using the 25 Percent Rule and then to make minor adjustments based on the other factors. Indeed, the hypothetical negotiation, factor 15, is often modeled more as a sham, take-it-or-leave-it proposition rather than a good-faith negotiation.

Conclusion

Recent decisions in patent infringement cases demonstrate that the courts are moving in the direction of requiring the use of fundamental and rational economic methods for determining reasonable royalties. The 25 Percent Rule is neither rational nor based on any fundamental principles, and its use is often inconsistent with the balanced application of the Georgia-Pacific factors.

Furthermore, the rule is contradicted, not confirmed, by empirical evidence. Such concerns possibly led Judge Sharon Prost to ask during the Federal Circuit's oral hearings in *i4i*, with regards to the 25 Percent Rule, "Why is that not just something pulled out of the air ... ?"

--By Stephen Rusek and Alan Cox (pictured), NERA Economic Consulting

Stephen Rusek is a senior consultant with NERA Economic Consulting in the firm's San Francisco office. Alan Cox is a senior vice president with the firm in the San Francisco office.

The opinions expressed are those of the authors and do not necessarily reflect the views of the firm, its clients, or Portfolio Media, publisher of Law360.

NERA

Economic Consulting