NERA
Economic Consulting

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Assessing the Damages Provisions in the Patent Reform Act of 2007

A roundtable discussion with Phil Beutel, Alan Cox, and Bryan Ray, moderated by Marion Stewart

In this short roundtable discussion, we explore the underlying economics of the proposed changes to how patent damages should be determined. Those changes are embodied in H.R. 1908, which passed the US House of Representatives earlier this year; similar legislation is currently being considered by the US Senate.

This roundtable includes three NERA economists with extensive experience in analyzing patent infringement damages—Phil Beutel, Alan Cox, and Bryan Ray. They discuss the economics of reasonable royalty determination and exchange their views on four key topics: the extent to which the proposed legislation will change current practice; how to interpret the legislative language relating to "contribution over prior art" and the "entire market value rule;" whether the legislation will create problems; and, in the end, whether the legislation "gets the economics right."

Phil Beutel is a Senior Vice President in NERA's White Plains, New York office and Chair of the firm's Global Intellectual Property Practice. Alan Cox is a Senior Vice President in NERA's San Francisco office, and Bryan Ray is a Vice President in NERA's White Plains office.

Please feel free to circulate this to your colleagues. If you have comments or suggestions, please let us know. Your views are always welcome. I hope you find the discussion informative and interesting.

Marion Stewart, Moderator
NERA Special Consultant

> Upon a showing … that a reasonable royalty should be based on a portion of the value of the infringing product or process, the court shall conduct an analysis to ensure that a reasonable royalty … is applied only to that economic value properly attributable to the patent's specific contribution over the prior art. …
>
> Upon a showing … that the patent's specific contribution over the prior art is the predominant basis for market demand for an infringing product or process, damages may be based upon the entire market value of the products or processes involved that satisfy that demand.
>
> H.R. 1908, Section 5

Marion Stewart: ***There has already been quite a bit of debate in the press and in Washington about whether the patent reform legislation strengthens or weakens a patent owner's claim for damages and, more generally, whether there's anything broken that needs fixing. As economists who are often retained to calculate damages in patent infringement litigation—on behalf of both patent owners and accused infringers—what, if anything, do you think the damages portion of the legislation changes?***

Alan Cox: I think that the current damages case law is already consistent with the idea that reasonable royalties should be based upon the *incremental* economic contribution of the patented technology. In this respect, I do not think the legislation will change anything. The concept of incremental benefit is already used by many damages experts to determine reasonable royalties, presumably based on a similar reading of the law. For

instance, *Georgia-Pacific*[1] factor one says a reasonable royalty should take into consideration the rates "received by the patentee for the licensing of the patent in suit, proving or tending to prove an established royalty." Depending on when and under what conditions such licenses were entered into, the rates stated in those licenses may reflect the additional value that arises from using the patented technology. Similarly, factor nine calls for the consideration of "[t]he utility and advantages of the patent property over the old modes or devices." This factor seems to me to be broadly consistent with H.R. 1908 as it passed the House. So, if the courts interpret the legislation in light of prior case law, I think it should have no impact on the basic framework for an appropriate calculation of reasonable royalty damages.

Phil Beutel: While I agree, for the most part, with Alan, I notice that he quite correctly said that many, not all, practitioners interpret current case law in this way. As practitioners are aware, the evidence presented at trial about reasonable royalties sometimes does not include an explicit economic assessment of the patented invention's incremental value or contribution to demand. Unfortunately, some analyses of reasonable royalties have been presented with little more support than mere reference to so-called benchmark licensing agreements, industry averages, a licensing expert's experience, or to negotiation rules-of-thumb. In those instances, while the analysis may be presented in the context of *Georgia-Pacific*, the damages award may nonetheless fail to reflect the true economic contribution of the patent. So, recognizing the reality that many royalty analyses do *not* follow this approach, the legislation may provide a not-so-subtle push to encourage practitioners to provide a more economically sound analytic foundation for royalty damage awards. If this happens, the proposed statute could change both the tone and substance of the evidence provided for some reasonable royalty decisions.

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Alan Cox

Marion Stewart: ***So, which is it: will the legislation make little or no difference, as Alan suggests or, as Phil suggests, will it provide an extra push to encourage more economically sound damages analyses?***

Alan Cox: I agree that it is reasonable to interpret the legislation as requiring courts to ensure that the testimony provided by damages experts includes a rigorous analysis of the economic benefits of the patent. I also agree that this standard is not always met. For instance, in *Lucent v. Gateway et al.,* there was little economically meaningful testimony to support the parties' damages positions.[2] In that case, Lucent's damages expert provided testimony that was limited to purported standard rates, without significant reference to the technology at issue. Similarly, Microsoft's damages testimony relied heavily on royalty payments made under purported comparable agreements. In my view, neither presentation provided an adequate analysis of the fundamental economic value of the intellectual property. Such an analysis could have provided the jury with a sound economic basis for determining a reasonable royalty. Indeed, *with a proper economic foundation*, standard rates or comparable licenses may provide information useful to determining incremental benefit, but the link between those other rates and licenses and incremental benefits in the matter at issue must be addressed, not simply assumed. Greater energy spent trying to describe the underlying economic benefits provided by a patent and how those benefits would be divided between the parties may have resolved the matter and reduced the likelihood that the award would be set aside. With a new statute, courts may have an added incentive to make sure that expert testimony is based upon sound economic, business, and financial principles.

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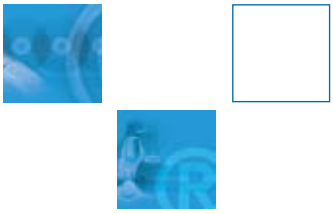
[1] *Georgia-Pacific Corp. v. United States Plywood Corp.,* 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970).

[2] *Lucent Technologies et al. v. Gateway Inc., et al.* (S.D. Calif.). See also David Blackburn and Mario A. Lopez, "Where's the Economics Behind *Lucent v. Gateway et al*.?" (NERA Working Paper) March 22, 2007.

Marion Stewart: ***You both seem to interpret the legislative language "contribution over prior art" to mean the same thing as "incremental" value. Is that right?***

Phil Beutel: In spirit, yes. To understand why, I think it is instructive to consider the phrase in the context of current case law on *lost profits* damages. If one follows the case law history—that is, from *Panduit*[3] to *State Industries*[4] to *Grain Processing*[5]—it says that a damages expert should consider the infringer's ability to retain at least some fraction of its accused sales by turning to next-best available alternative technology. In so doing, that infringer could perhaps keep some of its sales and, at the same time, reduce the volume of sales available to be captured by the patent owner. In effect, this encourages damages experts and the courts to focus on the *incremental contribution* of the patent. At one extreme, if the accused infringer would likely retain *all* of its accused sales by turning to alternative technology, then presumably lost profits damages should not be awarded. To an economist, that's the spirit of the first *Panduit* factor—that is, lost profits are available only to the extent one can show demand for the patented feature that could not be met through the use of a non-infringing alternative.



Given this case law, it makes economic sense to determine reasonable royalties by taking the *same* situation into consideration. That is, the infringer would never agree to a license that forced it to pay more than the economic cost of turning to that alternative, including both out-of-pocket costs and any foregone profits while the alternative is implemented. By focusing on the contribution over alternatives, I think the spirit of the legislation has it right.

Marion Stewart: ***Might the damages section of the legislation create any problems?***

Bryan Ray: The current damages statute is simple and intuitive, and it is supported by a rich body of case law and economic research and analysis. The framework that has evolved around that statute can, if implemented correctly, quite effectively lead to damages analyses that make good economic sense. So, while I agree with Phil that not all damages analyses and awards live up to that standard, I believe that a good framework is currently in place. Furthermore, while I also agree with Alan that many of the concepts in the proposed statute generally correspond to the sound economic reasoning that has been articulated in existing case law, I believe the legislative language contains ambiguity that may create confusion.

For example, notwithstanding our economic interpretation of the legislation, the specific language in the legislation actually refers only to so-called "prior art" and *not* to the infringer's "next-best available alternative." Assuming the prior art can be defined and identified, it may not be the same as the infringer's next-best available alternative throughout the damage period or, in particular, at the time of the hypothetical negotiation. It could be that the authors of that language simply assumed that the prior art *is* the next-best available alternative that an infringer would consider. On the other hand, they might be explicitly attempting to limit the alternatives available to the infringer to only the known prior art (or products already on the market). In either case, the effect is to impose a restriction that is overly limiting. Reasonable technical alternatives to the patented invention may not be limited to some defined prior art, as, for example, is shown by the *Grain Processing* decision. Furthermore, there might be an even broader set of possible economic alternatives available to an infringer that define the infringer's opportunity cost of using the

[3] *Panduit Corp. v. Stahlin Bros. Fibre Works, Inc.*, 575 F.2d 1152 (6th Cir. 1978).

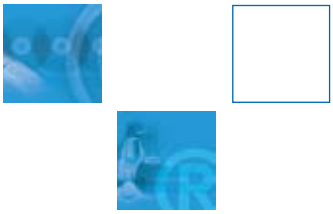
[4] *State Industries, Inc. v. Mor-Flo Industries, Inc.,* 883 F.2d 1573 (Fed. Cir. 1989).

[5] *Grain Processing Corp. v. American Maize-Products Co.,* 185 F.3d 1341 (Fed. Cir. 1999).

patented invention, and thereby constrain its willingness to pay a royalty to use that invention. In sum, on its face, the legislation may preclude possible viable alternatives to the patented invention that may reduce its incremental value to the infringer.

Marion Stewart: ***Phil, do you agree with Bryan that there is language in the proposed statute that might be problematic?***

Phil Beutel: Yes, I do. One area that I see as a potential problem with the proposed statute is how it treats the so-called "entire market value rule." In my opinion, the language does not sufficiently emphasize a basic economic truth: if the value of a patented invention is properly measured, the royalty *rate* should go hand-in-hand with the *base* of sales to which that rate is applied. The legislative language seems to suggest that first one chooses a rate and, then, independently, one decides whether the proper royalty base should be the entire market value of the product that embodies the invention. That makes no economic sense. Rather, one should consider the extent to which a patented invention may allow the seller to charge an incrementally higher price, to make some additional sales (and profits), or to save a certain amount of money in producing a product. These "incremental" financial gains, *if* they are causally connected to the patent at issue, may directly measure the patented invention's value. In principle, one could then take this measure of financial gain and divide by any royalty base one chooses, in turn, to determine an appropriate percentage royalty rate. As long as that rate is applied to that base, then the underlying "value" of the patented invention will properly be measured and the patent owner will receive appropriate compensation. Simply put, royalty rates and the appropriate royalty base are interrelated and should be jointly determined.



I do think that the proposed statute captures some of the most important economic concepts to consider in connection with a patent infringement damages analysis. But again, these concepts are not new, and some courts and some damages experts already understand and apply them.

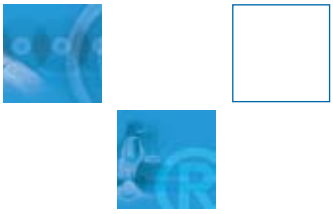
Bryan Ray

Marion Stewart: ***Alan, do you see any other problems or ambiguities in the legislative language?***

Alan Cox: Interestingly, the reform proposals are silent on the issue of the date for which the reasonable royalty should be calculated. The value of a patent often depends on the valuation date. By comparison, current case law calls for the reasonable royalty to be determined on the eve of first infringement. Depending on market circumstances, this timing can have a material impact on what is paid for a patent. A patent is often issued after a company starts making a product that incorporates a feature described in that patent. If the company's alternatives are limited at the issue date due, for example, to high costs associated with switching technologies, a hypothetical negotiation framework at that date could lead to a substantial damages claim, possibly in excess of any measure of the fundamental value of the patent. On the other hand, first infringement might occur at a much earlier stage of the product life cycle when switching costs may be much lower. Speaking generally, incremental value over prior art or over the next best alternative may change as a firm invests in learning how to put into practice the patented invention, in testing the patent's efficacy, in determining the product's attractiveness to consumers, and so forth. Without a clear indication as to the timing of the valuation in the current version of the patent reform bill, we have to guess how courts will deal with issues of timing. Certainly the courts need to be sure that both inventors and the developers of products that incorporate patented inventions are neither undercompensated nor awarded unwarranted litigation windfalls.

Marion Stewart: ***Do you think the incremental contribution of a patented invention can be measured without placing an undue burden on the courts?***

Phil Beutel: As any practitioner in this area knows, each case is unique. I've worked on cases over the years in which the incremental contribution of patented technology could be assessed using statistical models, specialized survey methods, or by reference to the parties' own documents. I've found that documents produced in discovery, for example, when viewed in the context of the available evidence in a case, sometimes have quite useful statements about the sales, share, or pricing that the company believes would be at risk if it doesn't get to introduce the new generation product or if a rival were to introduce that product. To be sure, sometimes the product or underlying technology is not well suited to permitting explicit, quantitative measurement of this contribution, or the evidence just isn't available. Even so, in my experience, facts often may be developed through depositions, interviews, and so forth, which permit at least some assessment of this issue. In the end, I don't agree with those commentators who have said that the proposed language places an impossible burden on the courts, or that there necessarily will be mountains of financial data interpreted in different ways by experts. There are many instances in which we already have successfully conducted this sort of analysis. This experience tells me that in many instances economists may be able to provide assistance to the triers-of-fact on precisely this question: that is, after all, the expert's job.



… in spirit the legislation gets the economics right, but its specific wording is ambiguous and potentially problematic.

Phil Beutel

Bryan Ray: I agree. There are many means by which a patent can create incremental value. For example, it may be the case that the patented invention, compared to an alternative, lowers the cost of producing a product, but in no way affects the product's performance or how it is otherwise perceived by consumers. That sort of cost savings is typically quantifiable. Alternatively, the patented invention may provide a feature that is valued by consumers, and thus for which they are willing to pay a premium. In those situations, sometimes that premium is directly observable in available data—for example, the product may be sold with and without the feature, which may provide a natural experiment from which to evaluate the value of the feature—or can be measured by, as Phil suggests, survey analysis. In other cases, there may be no alternative. The patented invention may be intrinsic to the product and necessary for its salability at effectively any price.

Marion Stewart: ***In the end, does the legislation get the economics right?***

Bryan Ray: As it currently stands, the statute proposes an economic framework for measuring reasonable royalty damages that recognizes that a patent's value derives from its incremental contribution to profits. It also recognizes that the incremental value of the patented invention may not be limited to the single component or even product in which the patented invention is embodied. And, finally, it recognizes that a patented invention may be only one of multiple features of a product that contributes to the demand for the product. So yes, at least in its spirit, I do think that the proposed statute captures some of the most important economic concepts to consider in connection with a patent infringement damages analysis. But again, these concepts are not new, and some courts and some damages experts already understand and apply them.

Phil Beutel: As we've said already, in spirit the legislation gets the economics right, but its specific wording is ambiguous and potentially problematic. If the spirit of the reform legislation is to encourage reasonable royalties that are based on the incremental value of patents—taking into consideration the next-best economic (not just technical) alternatives available to both parties—then that makes eminent sense. Indeed, that spirit is already well represented in the case law.

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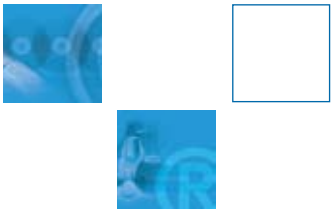

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NERA provides practical economic advice related to highly complex business and legal issues arising from competition, regulation, public policy, strategy, finance, and litigation. Our more than 45 years of experience creating strategies, studies, reports, expert testimony, and policy recommendations reflects our specialization in industrial and financial economics. Because of our commitment to deliver unbiased findings, we are widely recognized for our independence. Our clients come to us expecting integrity and the unvarnished truth.

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