IPR Memo for Conner Inn Pupilage Group 4
Program on a Policy Focus on Damages, Eligibility & IPRs
March 21, 2018
By
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The following short overview of Inter-Partes Review (IPR) is for use in a panel discussion involving Chief Judge Michel (Ret.) of the Court of Appeals for the Federal Circuit. In addition, a few questions are provided that may be addressed by the panel on that topic.

IPR proceedings became available on September 16, 2012 and are initiated when a third-party petitioner demonstrates (on the bases of prior art patents and printed publications) a ***reasonable likelihood*** that at least one claim of the patent being challenged is invalid. The legislative history suggests that the "**reasonable likelihood**" standard is higher than the "***substantial new question of patentability***" standard used in ex parte reexamination. *See* 112 Cong. Rec. S1375 (daily ed. March 8, 2011).

IPR proceedings begin with a third party filing a Petition seeking to institute a "patent trial." If the petition is granted an IPR proceeding is instituted and, after a phased period of discovery and motion practice, an oral hearing may be held before the Patent Trial and Appeal Board (PTAB). The PTAB subsequently issues its opinion concerning the validity of the subject patent.

In IPRs the challenger (or the Patent Office) must establish unpatentability "***by a preponderance of the evidence***." In the district court, a challenger must prove invalidity by "***clear and convincing evidence***." The higher standard in the district court is due to the presumption of validity that the patent has because it was issued by the Patent Office, which is presumed to have expertise that is not possessed by the Court and/or jury. In IPRs, it is the Patent Office making the determination, so there is no presumption of validity.

When considering whether to institute an IPR proceeding against a patent, the PTAB uses the "**broadest reasonable interpretation"** construction of the claim language. This differs from the standard in the District Court, where the "ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005). The US Supreme Court accepted the broadest reasonable standard for IPRs in *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142 (2016). In that case the Supreme Court also upheld the statute which provided that PTAB's decision whether to institute an inter partes review is "final and unappealable."

IPRs have become very popular with defendants because they have resulted in a fairly large number of decisions invalidating claims. Some of the statistics are shown in the graphics below.

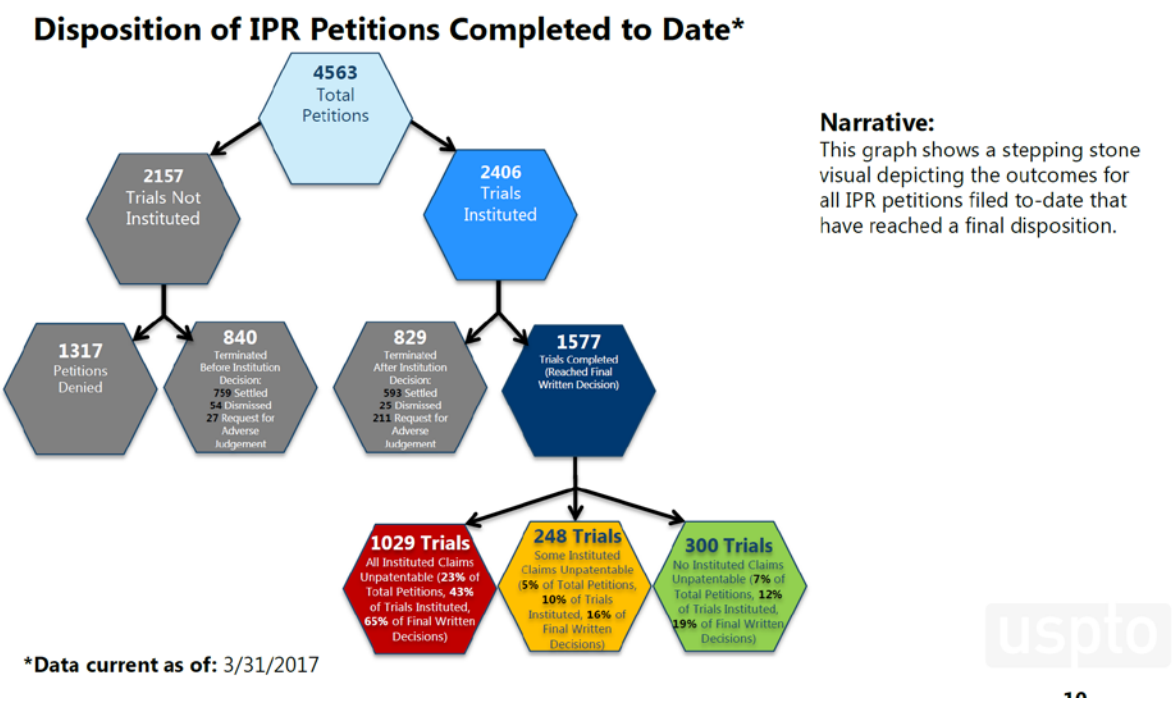


Fig. 1

The graphic of Fig. 1 shows that of 4,563 petitions filed as of 3/31/2017 (a year ago) 1029 resulted in trials in which claims were found invalid. The following chart of Fig. 2 shows the institution of IPRs by technology area.

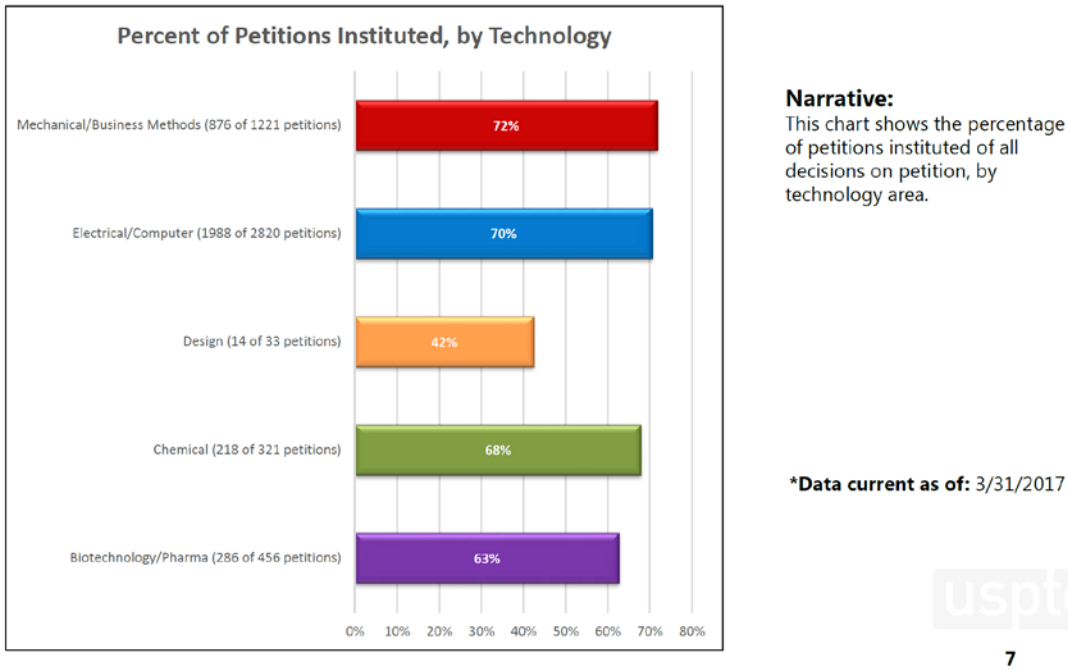


Fig. 2

The chart of Fig. 3 shows that PTAB institution decisions have been relatively stable in 2015 and 2016.

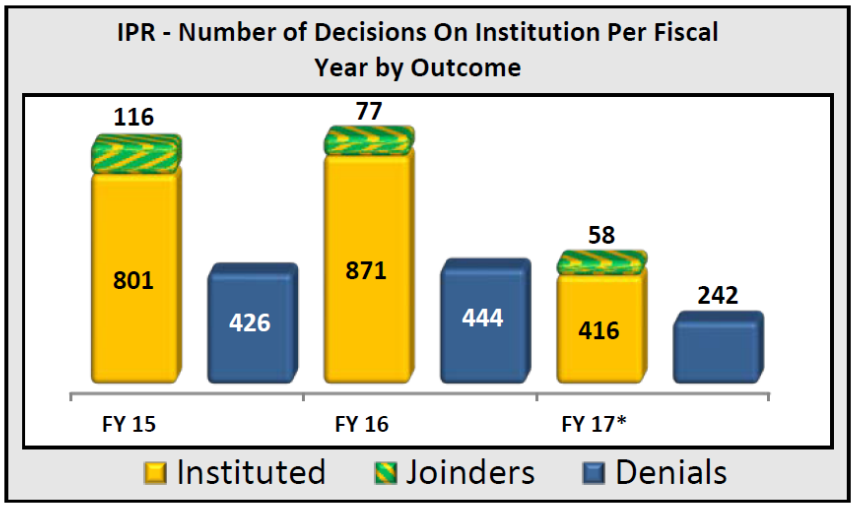
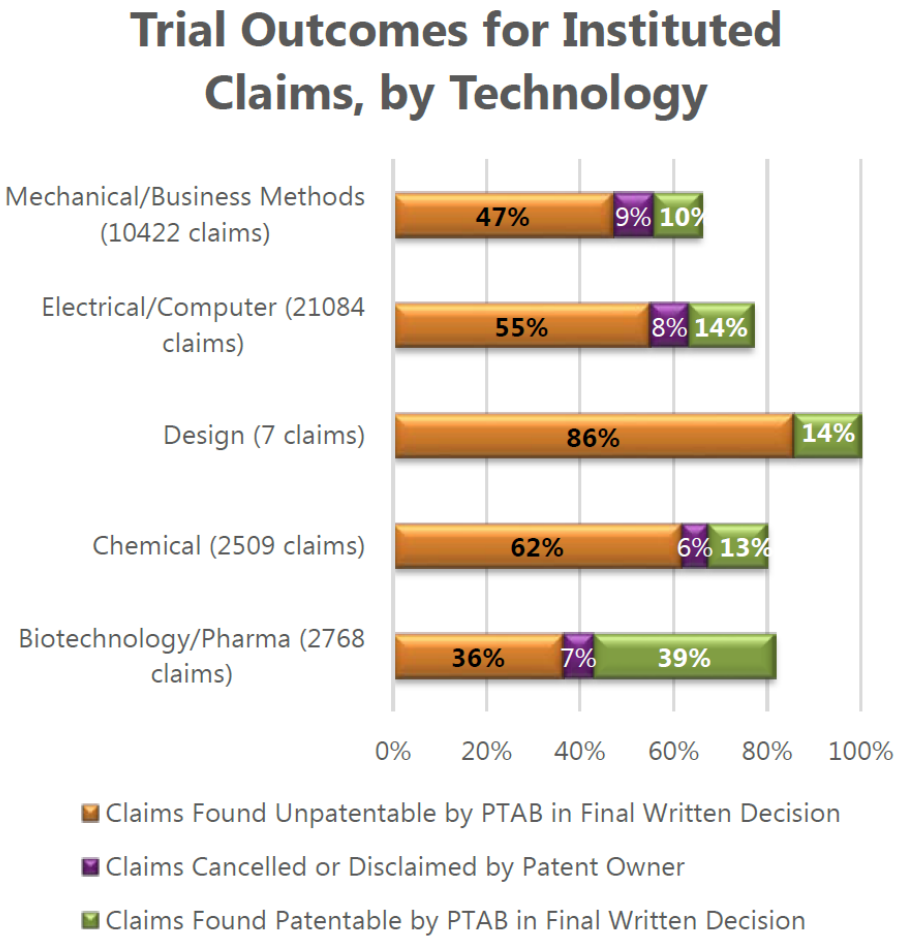


Fig. 3

The chart of Fig. 4 shows the outcomes of IPR by technology. Design claims fair the worst with only 14% of the claims being found patentable after an IPR. Bio/Pharma claims on the other hand fair the best with 39% being found patentable. Nevertheless, fewer than half the claims are patentable.



* Includes IPR and CBM trial outcomes

Fig. 4

Questions:

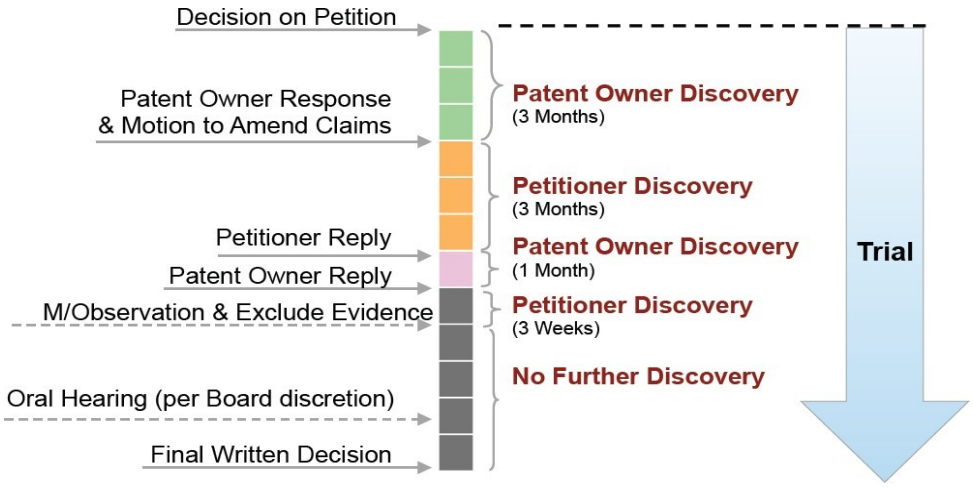
I. Partial institution of IPRs is no longer allowed. *SAS Institute Inc. v. Iancu.* Consider the effects on IPRs and the scope of estoppel in parallel litigation

1. Can the PTAB grant summary judgment as to claims for which it believes that no proceeding should be instituted?
2. Given the holding in SAS how many and what grounds should a petitioner include in a petition?
3. Does SAS change whether a patent owner should file a preliminary patent owner response, how it should be filed and what should be included?
4. In *SiOnyx, LLC v. Hamamatsu Photonics K.K.*, 1-15-cv-13488 (D. Mass. Aug. 30, 2018) (Order), the court found that if a petitioner's time for appealing a PTAB partial-institution decision had not yet run out at the time that *SAS* was handed down, then the failure to appeal after *SAS* results in estoppel as to the non-instituted grounds. Is there estoppel as to PTAB decisions issued before SAS as to non-instituted claims?

II. Motions to amend after *Aqua Products, Inc. v. Matal*

The *inter partes* review ("IPR") statute authorizes a patent owner ("PO") to "file, after an IPR has been instituted, one motion to amend the patent. The PTAB requires the patent owner to meet the "burden of proof to establish that it is entitled to the requested relief" under 37 C.F.R. § 42.20(c). In particular, the patent owner has been required to show that the amended claim overcomes the challenge to validity. In ***Aqua Products, Inc. v. Matal***, 872 F.3d 1290 (Fed. Cir. 2017) an en banc panel of the Federal Circuit, addressing whether the patent owner has the burden of proving patentability with respect to submitted amended claims during an inter partes review (IPR) proceeding, held that the burden of persuasion must remain at all times on the petitioner, including with respect to demonstration of unpatentability of amended claims.

TIME LINE



1. What factors should the patent owner consider if it has a pending district court litigation? Might you amend the claims too soon or too extensively so as to weaken the district court infringement claim? If you wait, maybe the PTAB will affirm the current claims.

2. Would there be any value in changing the statute to allow the patent owner to amend later, perhaps after a preliminary determination on patentability?

III. Time-barred petitions where there's parallel district court litigation

35 U.S.C. § 315(b) provides that: "An *inter partes review* may not be instituted if the petition requesting the proceeding is filed more than 1 year after the date on which the petitioner, real party in interest, or privy of the petitioner is served with a complaint alleging infringement of the patent."

1. In *Click-to-Call Techs., LP v. Ingenio, Inc*., _ F.3d _, 2018 WL 3893119 (Fed. Cir. Aug. 16, 2018), the Federal Circuit found that a party is time-barred from filing an IPR petition more than one year after being served with a complaint for patent infringement, even if the complaint was dismissed voluntarily and without prejudice. Was this the correct outcome?
2. In *Luminara Worldwide, LLC v. Iancu,* Nos. 17-1629, 17-1631, 17-1633 (Fed. Cir. Aug. 16, 2018), the Federal Circuit held that IPR petitioner Liown Electronics Co., Ltd. was time-barred under 35 U.S.C. § 315(b) where it was served with a complaint alleging patent infringement of one of the challenged patents more than a year before filing its IPR petition, although the complaint was later voluntarily dismissed without prejudice. The IPR as to the other patents was proper.

IV. Privity and real party in interest determinations in IPR proceedings

Under 35 U.S.C. § 312(a)(2), an IPR petition "may be considered only if . . . the petition identifies all real parties in interest." Who has the burden of proof as to whether the real parties have been identified?

1. In *Worlds, Inc. v. Bungie, Inc*., the Federal Circuit held that the Patent Trial and Appeals Board ("Board") must place the burden of persuasion on the Petitioner to show it has named all real parties in interest ("RPIs") once the patent owner produces some evidence that RPIs were not named. The patents were on a video game developed by Bungie and published by Activision. Petitioner Bungie's IPRs were found to be time barred under 35 U.S.C. § 315(b) since the IPRs were filed more than one year after Activision was served

with a complaint alleging infringement of the challenged patents, and Activision was an RPI in the IPR.

2. In *Applications in Internet Time, LLC v. RPX Corp*., case no. App. 2017-1698, 2017-1699, 2017-1701 (Fed. Cir. July 9, 2018), the Federal Circuit vacated two final written decisions of unpatentability, providing an expansive formula for determining whether a non-party is an RPI. Although the PTAB's Trial Practice Guide emphasizes that RPI and privity determinations require a flexible approach, the board has frequently focused its analysis on two questions: (i) control over the IPR proceedings; and (ii) financing of the IPR proceedings. The Federal Circuit rejected the Board's use of this ”unduly restrictive test” for making RPI determinations. It explained that determining whether a non-party is an RPI instead “demands a flexible approach that takes into account both equitable and practical considerations, with an eye toward determining whether the non-party is a clear beneficiary that has a preexisting, established relationship with the petitioner.”

V. Serial IPR challenges and challenges they present

35 USC §314(a) provides that the Director may not authorize an IPR unless the Director determines that “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Follow-on IPRs are second IPRs filed by the same party with respect to the same patent. Whether the PTAB will allow a follow-on IPR is governed by the seven *NVIDIA* factors, which are: (1) whether the same petitioner previously filed a petition directed to the same claims of the same patent; (2) whether the petitioner knew or should have known of the prior art asserted in the later petition when it filed its earlier petition; (3) whether at the time of filing of the later petition, the petitioner already received the patent owner’s preliminary response to the first petition or received the PTAB’s decision on whether to institute review in the earlier petition; (4) the length of time that elapsed between when the petitioner had the patent owner’s or PTAB’s analysis on the earlier petition and when petitioner filed the later petition; (5) whether the petitioner provides adequate explanation why the PTAB should permit another attack on the same claims of the same patent; (6) the finite resources of the PTAB; and (7) the requirement to issue a final determination not later than one year after institution.

1. Are there policy concerns, other than the 7 factors, that should be addressed when follow-on IPRs are filed?
2. In *Genetech v. Pfizer* IPR2018-00373, the PTA denied institution of two follow-on IPRs using its discretion under 35 U.S.C. § 314(a) considering the factors applied in *NVIDIA Corp. v. Samsung Elec. Co*., Case IPR2016-00134 (PTAB May 4, 2016) and *General Plastic Indus. Co., Ltd. v. Canon Kabushiki Kaisha*, Case IPR2016-01357 (PTAB Sept. 6,

2017). The The 2018 petitions came on the heels of two earlier IPRs against the same patents. Genentech argued that Pfizer did not offer new evidence and arguments in the 2018 petitions. Instead it used the same prior art references to attack the same claims and failed to provide any rationale for why the follow-on petitions should be instituted in light of the *General Plastics* doctrine.

3. Unrelated Entities: The PTAB denied a second challenge to a patent where the petitioners were co-respondents in an ITC investigation. In *Shenzhen Silver Star Intelligent Tech. Co., Ltd. v. iRobot*, IPR2018-00761 ("the '761 IPR"). The Board applied the General Plastic factors and exercised its discretion pursuant to 35 U.S.C. § 314(a) and denied institution against iRobot's U.S. Patent No. 7,155,308 ("the '308 Patent"), which was also the subject of an unsuccessful challenge in IPR2017-02078 ("the '2078 IPR"), which was filed months earlier. The Board found that although petitioners in the '761 IPR and the '2078 IPR were not the same or related entities, denial was appropriate because the entities were co-respondents in a related patent infringement Investigation brought by iRobot at the International Trade Commission ("ITC"), Inv. No. 337-TA-1057. In *General Plastic*, a precedential decision, "the Board articulated a non-exhaustive list of [seven] factors to be considered in evaluating whether to exercise its discretion, under U.S.C. § 314(a), to deny a petition that challenges a patent that was previously challenged before the Board." As raised in the concurrence:

> Should the Board consider an eighth factor in situations such as here, where the petitioners in the serial IPR petitions are co-defendants in litigation? Should there be a rebuttable presumption that an after-filed petition should be denied under *General Plastic* where the after-filed petition was filed after an earlier filed petition has received a preliminary response or institution decision?

VI. Updated PTAB Trial Practice Guide

In August 2018, the PTAB Trial Practice Guide update was released. The major revisions to the Guide include:

- The introduction of a sur-reply to the prior sequence of briefs in board proceedings
- The circumscribed role to be played by expert evidence
- The introduction of a new prehearing conference call, which some commentators predict has the potential to be as important as the main oral hearing
- Clarifications regarding motions to strike and motions to exclude

1. How can practitioners make use of the new rules for the benefit of Petitioners? Patent owners?

By: Benoit Quarmby, MoloLamken LLP

I. Patent Damages Landscape[1]

A. General Background

Section 284 of the Patent Act governs the award of patent damages. It provides, in relevant part, as follows:

> 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 the use made of the invention by the infringer, together with interest and costs as fixed by the court.
>
> When the damages are not found by a jury, the court shall assess them. In either event the court may increase the damages up to three times the amount found or assessed. Increased damages under this paragraph shall not apply to provisional rights under section 154(d).

35 U.S.C. § 284. The statute supports two basic theories of damages: lost profits and reasonable royalty, with a reasonable royalty representing the floor below which damages should not fall.

There is a safety valve for damages awards. Courts will reject jury awards that they deem excessive insofar as they bear no relation to the highest amount the jury could properly have awarded based on relevant evidence. *See Shockley v. Arcan, Inc.*, 248 F.3d 1349, 1362 (Fed. Cir. 2001). And a "damages award must be set aside if the verdict is against the clear or great weight of the evidence." *Id.*

B. Lost Profits – Overview

Lost profits is the amount of money the patent owner lost due to infringement. It is the patent owner's burden to show that an infringement caused it to lose profits it would otherwise have made—a "but for" causation test. If she cannot do so, then she is entitled to reasonable royalty damages—or in some cases, a mix or split award, with lost profits used as a measure for some infringing sales, and reasonable royalty as the measure for remaining sales.

[1] For a more comprehensive analysis of the patent damages landscape, please refer to Fish & Richardson's excellent "Patent Damages Primer," available at https://www.fr.com/services/litigation/patent/patent-damages/patent-damages-primer/ (last visited March 14, 2018).

Generally speaking, the patent owner must demonstrate that it actually competes with the infringer in the relevant market for the patent product or method in order to be entitled to lost profits. That said, the patent owner may on occasion be entitled to lost profits even when she does not sell the patented product under some circumstances, for example where the patent owner sells an unpatented product whose sales were nonetheless hurt by the infringement.

Lost profit analyses tend to yield bigger damages awards than reasonable royalty analyses. But they are harder to prove, as that patent owner must prove an absence of non-infringing alternatives. However, scientific precision is not required in assessing the likely lost profits. A reasonable approximation will generally suffice.

C. Reasonable Royalty - Overview

There is no single accepted method for determining a reasonable royalty, and courts have adopted a variety of different approaches.[2]

The most common approach is set forth in *Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F. Supp. 1116, 1121 (S.D.N.Y. 1970). There, the court recommended that courts focus on a hypothetical license negotiation between a willing licensor and a willing licensee. In doing so, courts may consider some or all of the following factors.

1. The royalties received by the patent owner for the licensing of the patent-in-suit, proving or tending to prove an established royalty;
2. The rates paid by the licensee for the use of other patents comparable to the patent-in-suit;
3. The nature and scope of the license, as exclusive or non-exclusive, or as restricted or non-restricted in terms of territory or with respect to whom the manufactured product may be sold;
4. The licensor's established policy and marketing program to maintain its patent monopoly by not licensing others to use the invention or by granting licenses under special conditions designed to preserve that monopoly;
5. The commercial relationship between the licensor and the licensee, such as whether they are competitors in the same territory in the same line of business, or whether they are inventor and promoter;
6. The effect of selling the patented specialty in promoting sales of other products of the licensee; the existing value of the invention to the licensor as a generator of sales of its non-patented items; and the extent of such derivative or convoyed sales;
7. The duration of the patent and the term of the license;

[2] For a more exhaustive review of the topic, I recommend Fish & Richardson's Methodologies for Determining Reasonable Royalty Damages, available at https://www.fr.com/reasonableroyalty/ (last viewed March 14, 2018).

8. The established profitability of the product made under the patent; its commercial success; and its current popularity;
9. The utility and advantages of the patent property over the old modes or devices, if any, that had been used for working out similar results;
10. The nature of the patented invention; the character of the commercial embodiment of it as owned and produced by the licensor; and the benefits to those who have used the invention;
11. The extent to which the infringer has made use of the invention, and any evidence probative of the value of that use;
12. The portion of the profit or of the selling price that may be customary in the particular business or in comparable businesses to allow for the use of the invention or analogous inventions;
13. The portion of the realizable profit that should be credited to the invention as distinguished from non-patented elements, the manufacturing process, business risks, or significant features or improvements added by the infringer;
14. The opinion testimony of qualified experts; and
15. The amount that a licensor (such as the patent owner) 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.

Though *Georgia Pacific* considered a licensing negotiation that occurs at the instant infringement begins, the Federal Circuit has on some occasions considered later events—such as post-negotiation commercial success, for example.

The second principal reasonable royalty approach is the analytical approach. Rather than focus on a hypothetical negotiation, it involves a calculation of damages based on the infringer's own internal projections of profits at the time the infringement began. It is an approach that relies on the uncovering in discovery of a very specific time of internal document, but one that is not unusual in the corporate world.

The third notable approach is the cost-savings approach—*i.e*. one that focuses on the cost-savings associated with performing the infringing method. While nominally one of the fifteen factors to be considered under Georgia-Pacific, in practice some courts have chosen to analyze this factor alone to determine damages in cases involving method patents. *See Hanson v. Alpine Valley Ski Area, Inc.*, 718 F.2d 1075 (Fed. Cir. 1983).

II. Potential Questions for the Panel

A. WesternGeco. The Supreme Court recently granted *certiorari* in *WesternGeco LLC v. Ion Geophysical Corp.*, No. 16-1011—a case that could have significant ramifications for U.S. patent holders who compete in foreign markets. *WesternGeco* concerns the scope of damages under 35 U.S.C. § 271(f) where lost profits occur outside of the U.S. Section 271(f) creates infringement liability for

any party that "supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention . . . in such a manner as to actively induce the combination of such components outside of the United States" in a manner that would infringe the patent. 35 U.S.C. § 271(f)(1).

WesternGeco, the Petitioner, owns a patent on technology that improves the speed and accuracy of ship-based geological surveys used to find oil drilling sites under the ocean floor. WesternGeco does not license its patents or sell products embodying them. Instead, it uses its patented technology to conduct surveys for oil companies.

ION developed a competing survey system. It shipped the components of its system from the U.S. to surveying companies outside the U.S., who combined them to conduct surveys abroad in ways that would have infringed WesternGeco's patents had they taken place in the U.S. According to Western-Geco, ION customers outbid it for at least ten contracts, each worth between $6 million and $45 million.

Citing the presumption against extraterritorial application of the patent law, Judges Dyk and Hughes held that WesternGeco could not recover lost profits from surveys that were conducted in international waters. WesternGeco's attempt to recover for overseas surveys, the panel majority reasoned, was an impermissible attempt to recover damages for foreign uses of a patented product.

A jury found ION liable for infringement under 35 U.S.C. §§ 271(f)(1), (2). It awarded $12.5 million in reasonable-royalty damages, and $93.4 million in lost profits from the loss of the 10 overseas contracts. The Federal Circuit affirmed the liability verdict, but reversed on damages.

The Supreme Court granted certiorari and requested the views of the Solicitor General, who filed a brief supporting WesternGeco. Section 284 of the Patent Act, the Government explained, guarantees a prevailing patent owner "damages adequate to compensate for the infringement." 35 U.S.C. § 284. According to the Government, the Court of Appeals erred by precluding WesternGeco from recovering damages sufficient to compensate it for its lost profits, simply because those profits would have been earned on contracts to perform services outside the U.S. But, according to the Government, the presumption against extraterritorial application of the patents laws do not prevent courts from computing damages using evidence of foreign sales.

The Government also explained that the case was an important one. Categorically excluding foreign sales, it reasoned, "systematically undercompensates" patentees . . . whose transnational business[es] suffer[ ]" when competitors infringe their patents inside the U.S.

a. Do you agree with the Federal Circuit's reasoning, and why?
b. How do you expect the Supreme Court to rule here?
c. In the event the Court were to rule that reliance on foreign sales data is appropriate, how often do you see this scenario arising?
d. How much of a burden do you expect this to become for foreign companies with U.S. operations?

B. Georgia-Pacific Factors. There is a lot of commentary suggesting that the Georgia-Pacific analysis is fundamentally flawed.

Some argue that a fifteen-factor test is no test at all, which is why the courts have varied so widely in applying the *Georgia-Pacific* framework. Others deem the factors simply far too imbalanced to be effectively applied. Some factors are going to have to be given completely disproportionate weight in any reasonable analysis. And already we see courts veering away from a comprehensive analysis of these factors, sometimes focusing only on one or two.

a. What trends, if any, are you seeing in the courts' analysis of these factors?
b. Do you think the reasonable royalty framework needs to be overhauled? It seems that there is so much divergence in methodologies at this time that parties and courts appear to be making it up as they go along.

C. Willful Infringement Post-Halo. In June 2016 the United States Supreme Court issued a decision in *Halo Electronics, Inc. v. Pulse Electronics, Inc.*, discarding the Federal Circuit's *Seagate* test for finding willful infringement and awarding enhanced damages in patent cases. The Court emphasized that district courts had discretion to award enhanced damages and explained that this enhancement may rest entirely on an infringer's subjective knowledge and beliefs as to infringement and validity at the time of the infringement, regardless of whether the infringer was objectively reckless.

a. What trends are your seeing post-*Halo*:
    i. In the number of motions for willfulness and enhanced damages filed; or
    ii. In the success rate of those motions?

b. Do you believe this represents a permanent change on this front, or do you expect the pendulum to eventually swing back?

D. High Damages Verdicts. There is a perception that the Federal Circuit is disproportionately likely to invalidate high damages awards, often on the basis of perceived flaws in the experts' damages methodologies.

a. Is that your perception of the trend too?
b. Is there any concern that by focusing on the methodologies rather than the reasonableness of the amount, the Federal Circuit is setting itself a lower bar for invalidating these judgments?
c. Is there a concern that the Federal Circuit in doing so is usurping the role of the jury?

E. Apportionment of Lost Profits. In *Mentor Graphics v. EVE*, the Federal Circuit considered a jury award for both lost profits and reasonable royalty challenged by petitioner because the district court had "failed to apportion the lost profits." The Federal Circuit rejected the argument. After an overview of damages across different fields of law, the court explained that "the fact finder's job is to determine what would the patent holder have made (what would his profits have been) if the infringer had not infringed. Under the *Panduit* test, a patentee is entitled to lost profit damages if it can establish four things: (1) demand for the patented product; (2) absence of acceptable non-infringing alternatives; (3) manufacturing and marketing capability to exploit the demand; and (4) the amount of profit it would have made." The Court reaffirmed that "apportionment is an important component of damages law generally, and we believe it is necessary in both reasonable royalty and lost profits analysis." In the case before the court, however, all of the *Panduit* factors were satisfied, and the district court had not erred in refusing to further apportion lost profits after the jury had returned its verdict applying the *Panduit* factors.

EVE petitioned the Supreme Court for *certiorari*. The question presented on damages is the following:

> "When a patent is … not for an entire[] … machine or contrivance, the patentee must … separate or apportion … the patentee's damages between the patented feature and the unpatented features." *Garretson v. Clark*, 111 U.S. 120, 121 (1884). In *Garretson* and multiple other cases, this Court applied that rule to damages in the form of lost profits. The Federal Circuit, however, permits patentees to recover lost profits damages for an

entire multicomponent product, without apportioning the value between patented and unpatented features, simply by showing that the patentee would have made the sale "but for" the infringement. Did the Federal Circuit err in holding that proof of but-for causation, without more, satisfies the requirement that damages be apportioned between patented and unpatented features?

a. Do you agree that the Federal Circuit erred here?
b. If certiorari is granted, how do you see the Supreme Court approaching the issue?
c. How do you see the law of apportionment—both in the reasonable royalty and lost profits contexts—evolving in the years to come?

ELIGIBILITY QUESTIONS FOR JUDGE MICHEL

By: Richard Koehl, *Hughes Hubbard & Reed LLP*

1. **You wrote the en banc opinion for the Federal Circuit for *In re Bilski*. Do you think the two-step test subsequently adopted by the Supreme Court *Alice* and *Mayo* was wise? Do you think it has been more or less successful at providing clarity than the machine-or-transformation test adopted in the Federal Circuit's *Bilski* opinion?**

   See Alice Corp. Pty. Ltd. v. CLS Bank Int'l, 134 S. Ct. 2347 (2014); *Mayo Collaborative Svcs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012); *In re Bilski*, 545 F.3d 943, 963 (Fed. Cir. 2008) ("As outlined above, the operative question before this court is whether Applicants' claim 1 satisfies the transformation branch of the machine-or-transformation test. We hold that the Applicants' process as claimed does not transform any article to a different state or thing."), *aff'd on other grounds*, 561 U.S. 593 (2010).

2. **Is there any role today for the machine-or-transformation test, or indeed any of the other tests that were considered by the Federal Circuit but rejected in *Bilski*, in the *Alice/Mayo* world?**

   See Bilski, 545 F.3d at 958–59 (finding *Freeman-Walter-Abele* test inadequate); *id.* at 959–60 (finding "useful, concrete, and tangible result" test inadequate); *id.* at 960 (finding "technological arts" test unclear and lacking prior support in case law); *id.* at 960 (rejecting categorical exclusions); *id.* at 960–61 (rejecting a "physical steps" test).

3. **Is the *Alice/Mayo* test really a "technological arts" test by another name?**

   See Ultramercial, LLC v. Hulu, LLC, 772 F.3d 709, 717 (Fed. Cir. 2014) ("*Alice* . . . , for all intents and purposes, set out a technological arts test for patent eligibility.") (Mayer, J.).

4. **Which should be given more weight, in your view: whether a claim merely covers "well-understood, routine, conventional activity," or a claim's potential for pre-empting other applications of laws of nature or natural phenomena?**

   See Myriad, 569 U.S. at 73 ("In particular, the steps in the claimed processes (apart from the natural laws themselves) involve well-understood, routine, conventional activity previously engaged in by researchers in the field."); *see also Alice*, 134 S. Ct. at 2354 ("We have described the concern that drives this exclusionary principle as one of pre-emption."); *Mayo*, 566 U.S. at 86 ("[T]here is a danger that the grant of patents that tie up their use will inhibit future innovation premised upon them, a danger that becomes acute when a patented process amounts to no more than an instruction to 'apply the natural law,' or otherwise forecloses more future invention than the underlying discovery could reasonably justify.").

   See also Bilski, 545 F.3d at 957 ("This tension is resolved, however, by recalling the purpose behind the Supreme Court's discussion of pre-emption, namely that pre-emption is merely an indication that a claim seeks to cover a fundamental principle itself rather than only a specific application of that principle. . . . In contrast, a claim that is tied to a particular machine or brings about a particular transformation of a particular article does not pre-empt all uses of a

fundamental principle in any field but rather is limited to a particular use, a specific application. Therefore, it is not drawn to the principle in the abstract.") (Michel, C.J.).

5. **Where would you draw the line between the first and second steps of the Alice/Mayo test? For example, if a claimed method begins and ends with natural phenomena, is that enough for Step 1?**

   See Ariosa Diagnostics, Inc. v. Sequenom, Inc., 788 F.3d 1371, 1376 (Fed. Cir. 2015) ("[T]he claims at issue, as informed by the specification, are generally directed to detecting the presence of a naturally occurring thing or a natural phenomenon . . . . As we noted above, the claimed method begins and ends with a naturally occurring phenomenon.") (Reyna, J.).

6. **Should Step 2 of the *Alice/Mayo* test eliminate all underlying natural phenomena from the claims, or is it enough that the claims integrate natural phenomena into a specific technological process?**

   See, e.g., Mayo, 566 U.S. at 77 ("The question before us is whether the claims do significantly more than simply describe these natural relations. To put the matter more precisely, do the patent claims add *enough* to their statements of the correlations to allow the processes they describe to qualify as patent-eligible processes that apply natural laws?") (emphasis in original).

7. **To what extent do you believe that the line between seeking to patent a law of nature or natural phenomenon, on the one hand, and an application of a law of nature or mathematical formula, on the other hand, should be different for methods?**

   See Ass'n for Molecular Pathology v. Myriad Genetics, Inc., 569 U.S. 576, 595 (2013) ("Had Myriad created an innovative method of manipulating genes while searching for the BRCA1 and BRCA2 genes, it could possibly have sought a method patent.").

8. **Do you believe there should be any overlap between the questions of eligibility under Section 101 (in particular the question of whether the claimed invention involves merely "well-understood, routine, conventional activity") and of obviousness under Section 103?**

   See Myriad, 569 U.S at 73 ("We find that the process claims at issue here do not satisfy these conditions. In particular, the steps in the claimed processes (apart from the natural laws themselves) involve well-understood, routine, conventional activity previously engaged in by researchers in the field. At the same time, upholding the patents would risk disproportionately tying up the use of the underlying natural laws, inhibiting their use in the making of further discoveries.").

9. **To what extent does the legal inquiry into eligibility under Section 101 really implicate factual inquiries or subsidiary fact-finding? And to what extent should an appellate court review the facts underlying that legal determination? Does that turn the legal inquiry into a predominately factual one?**

   See Exergen Corp. v. KAZ USA, Inc., Nos. 2016-2315, 2016-2341, slip op. at 14 (Fed. Cir. Mar. 8, 2018) ("After a trial, the district court in this case concluded that the claimed combination at issue was not proven to be well-understood, routine, and conventional. It cited the evidence presented at trial and from the patent specifications. This is a fact find-

ing reviewed for clear error.") (Moore, J.); *Aatrix Software, Inc. v. Green Shades Software, Inc.*, No. 2017-1452, slip op. at 14 (Fed. Cir. Feb. 14, 2018) ("In light of the allegations made by Aatrix, the district court could not conclude at the Rule 12(b)(6) stage that the claimed elements were well-understood, routine, or conventional.") (Moore, J.); *Berkheimer v. HP Inc.*, No. 2017-1437, slip op. at 14 (Fed. Cir. Feb. 8, 2018) ("While patent eligibility is ultimately a question of law, the district court erred in concluding there are no underlying factual questions to the § 101 inquiry. Whether something is well-understood, routine, and conventional to a skilled artisan at the time of the patent is a factual determination. . . . The mere fact that something is disclosed in a piece of prior art, for example, does not mean it was well-understood, routine, and conventional.") (Moore, J).

But see Exergen, slip op. at 7 ("The majority attempts to salvage the district court's decision by emphasizing the novelty of the heat balance coefficient. In doing so, the majority misapplies the step two analysis from the *Mayo/Alice* framework. . . . The majority's analysis fails to identify any combination of claim elements that is not well-understood, routine, and conventional aside from the use of a newly discovered law of nature.") (Hughes, J., dissenting); *Aatrix*, slip op. at 2 ("[T]he majority opinion attempts to shift the character of the § 101 inquiry from a legal question to a predominately factual inquiry. The risk of this approach is that it opens the door in both steps of the *Alice* inquiry for the introduction of an inexhaustible array of extrinsic evidence, such as prior art, publications, other patents, and expert opinion.") (Reyna, J., dissenting-in-part).

10. **Should questions of eligibility under Section 101 be decided at the pleading stage, for example in motions to dismiss pursuant to Rule 12(b)(6)? Should plaintiffs be allowed to amend their complaints and cite additional facts in response to motions to dismiss?**

    See Aatrix, slip op. at 2 ("The majority attempts to expand this court's law regarding patent eligibility under § 101 at the Rule 12(b)(6) stage. This contradicts our case law that patent ineligibility under § 101 is a question of law, and that it can be appropriately decided on a motion to dismiss.") (Reyna, J., dissenting-in-part).

11. **Should there be a Seventh Amendment right to any aspect of the eligibility determination, such as factual findings underlying the legal determination of eligibility? If there is a right to trial by jury, what questions would you ask the jury?**

    See Exergen, slip op. at 15 ("Whether the Seventh Amendment guarantees a jury trial on any factual underpinnings of § 101 is a question which awaits more in-depth development and briefing than the limited discussion in this case.") (Moore, J.).

AIPLA Speech by Judge Paul Michel, *US Court of Appeals for the Federal Circuit*

Friends,

It is an honor to appear before you to review together the present health of the American Patent System. In short, it is not good. Until recently, ours was the best in the world and so rated by the US Chamber of Commerce. But in the most recent annual rating, we fell to tenth place---tied with Hungary, a country better known for goulash than for its patent system.

In my view, trouble had been brewing for several years and has now hit home as a result of a "perfect storm" in patent law.

First, the Supreme Court decimated the availability of injunctions for patent owners with the eBay case. The majority opinion said little, and the competing concurrences of Chief Justice Roberts and Justice Kennedy sowed instability by offering conflicting views of the law, especially with Justice Kennedy's contention that certain patent owners may be less deserving of an injunction.

Next, the Supreme Court upended eligibility law, greatly constricting the scope of what can be patented. That imposed massive uncertainty over the validity of countless thousands of patents, most of which were issued long before Mayo/Alice. Uncertainty, of course, is exactly what business cannot abide. Even worse, it excluded inventions that should be allowed and that are now allowed in Europe and Asia, and even China.

Following that, the post-grant reviews created by the America Invents Act displayed alarming rates of invalidation. Inter Partes Reviews were far more numerous than the other two reviews and far more prevalent than initially predicted by the PTO. And, the high rates shocked many because nearly all IPRs challenge patents being enforced in court, after pre-suit investigation. Such patents should be among the strongest.

Needless to say, the Court and the Congress did not coordinate their incursions into the patent system. The AIA was enacted before we understood the full impact of the Supreme Court's changes to patent law. But we're now experiencing the effects of this perfect storm—the combined impact has seriously hobbled our vaunted patent system over just the last 3 years.

The most worrisome impact has been to discourage investments in R & D and Commercialization. Financial investors, in my view, are the primary targets of the patent system. They have many alternatives aside from financing invention and product development. Why not invest instead in casinos or films? Or invest in innovation, but overseas where patent protection now is stronger? In fact, the share of US venture capital going overseas is up by 30%--a very troubling trend.

As the Financial Times reported just this week, many companies in many technologies are no longer able to get the serial investments needed. Start-ups, research universities, and small firms are especially hard hit. Yet they are the very companies that produce most new jobs, most economic growth and most major advances. Start-up formation has declined, and now more die each year than are born---both for the first time in our history.

Other warning signals include:

--patent values are down, by as much as two-thirds as seen in public records

--both voluntary licensing and law suit settlements are down

--the percentage of U.S. patent applications that are of U.S. origin are down

--enforcement suits are down

--independent inventor involvement--think Edison, Bell, Wright brothers-- is down to one sixth of the prior rate.

--scientists at major US companies are being let go, with a big pharma company recently announcing it was shedding 3 thousand.

Nowadays, outside counsel routinely advise clients not to license technology they are using that is covered by another's patents even if thought valid. Why? Because IPRs and 101 challenges have altered the risk calculus. This new calculus caused the collapse of the embryonic stock exchange for patent rights, called "IP Exchange International." It was to be totally transparent and completely computerized, with all bidders offered the same market-based prices. It would have been a great improvement over the system of secret license prices. But like venture capital

backing innovation, it could not survive in the present, enfeebled patent system. The incentives are just too low to encourage investment and licensing on the scale needed.

In my opinion, the patent system is, above all, an incentive system. Creative people will create--- at least as long as they are employed. But most innovation is slow, costly and risky, with many failures along the way. A major new drug for, for example, costs, on average, over a Billion dollars. In other industries, the amounts are not as eye-popping, but still very large. And the investments must be repeated and increased throughout the invention and commercialization cycle which usually takes years. Corporate managers, of course, face the same question of the adequacy of investment incentives as venture capitalists and other external funders. It all comes down to Return on Investment---ROI. How sure, how large, how soon?

Nor can public investment save US innovation. Because of the federal fiscal mess, public Investment in R & D has sharply declined in recent years. The Budget at NIH, for example, is 20% lower than a decade ago. Only private investment, then, can support our knowledge economy. And that is our main competitive advantage in today's global economy.

Not all threats to investment are internal. China, for one, is massively increasing its investments in innovation in both the public and private realms, and inducing US direct investments. Indeed, according to WIPO's report from last year, Chinese innovators filed almost twice as many patent applications as US innovators: In 2015, Chinese innovators filed 1,010,406 applications compared to 526,296 by US innovators (and Japan: 454,285) [Source: http://www.wipo.int/pressroom/en/articles/2016/article_0017.html]

And, China is greatly strengthening enforcement as well as enlarging eligibility, just as America is weakening enforcement and shrinking eligibility. Other competitors pose similar challenges. In addition to broadening eligibility beyond the bounds of US case law,

patent enforcement in Europe is far faster, cheaper, surer and stronger than here. In Germany, for instance, as used to be the case here, injunctions are routine once infringement and validity are established. How long before our companies to begin sending even more investment funds, labs and law suits over there?

In considering how we fell into this ditch, I observed this trend: patent policy discussions degenerated into propaganda wars with massive PR campaigns, lobbying campaigns and

organized campaign contributions. Anecdotes replaced facts; and exaggerated narratives about litigation explosions, frivolous law suits and, especially, "patent trolls" replaced analysis.

But we cannot return to the day when Judge Rich and three other experts wrote the 1952 Patent Act which Congress passed essentially unchanged. Therefore, the only solution is to better educate and persuade the Congress to correct the procedural flaws in the IPR process, both as written and as implemented by the PTO Director and the PTAB. Indeed, some industries see the IPR process as so flawed that they are willing to adopt creative patent ownership arrangements in order to avoid being subjected to the IPR process. On IPR reform, Sen. Coons has usefully proposed legislation. In fact, the new PTO Director could fix most of the flaws on his own, if he so chose. One way or the other, fixes are urgently needed.

Second, Congress must return eligibility law to its proper statutory basis by overruling the Mayo/Alice cases and clarifying and restoring the scope of eligibility to its prior state. This very Association has a fine proposal on eligibility. Sister associations do too. Of course, they need to be reconciled into a consensus proposal, as is presently being attempted. It seems clear that neither the patent office nor the Federal Circuit can fix the fundamental problem, only Congress can.

The problem is not lack of specific solutions or useful legislative proposals. My own suggestions were provided in detail in a Supplemental Statement to the House patents sub-committee in September, following my July 13 testimony. Others abound. The problem is the lack of realism and will, of political activism of our profession. It seems clear to me that only if we all get involved on Capitol Hill can the US Patent System, the engine of prosperity and security, be revived.

So the question is stark: Will we, or will we not, act in concert to save our patent system from further decline?

Thank you."