INTELLIGENCE THAT WORKS

Reasonable Royalty and the Infringer's Profits

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Abstract

In patent infringement damages, one approach to the determination of a reasonable royalty is to apply the hypothetical negotiation framework. To determine a reasonable royalty under this framework, it can be instructive to compare the licensee's willingness to pay and the licensor's willingness to accept. Where there is an overlap in these two positions, it is possible to determine a reasonable royalty that is generally consistent with each party's position. In certain instances, there may be no such overlap. This dynamic can occur when the licensor's minimum willingness to accept exceeds the licensee's actual or anticipated profits associated with the sale of the accused product. This article explores Federal Circuit decisions addressing the circumstances under which a reasonable royalty may exceed the infringer's profits. The Federal Circuit has generally upheld royalty rates in district court rulings where the royalty rate exceeds the infringer's claimed profits, although in doing so the Federal Circuit has often drawn attention to the specific facts and circumstances of the licensee's position.

I. Introduction

In patent infringement litigation, one measure of damages is a reasonable royalty. While there is no required method for determining the reasonable royalty, a common approach is the hypothetical negotiation or "willing licensor-willing licensee" approach.[1] This approach "attempts to ascertain the royalty upon which the parties would have agreed had they successfully negotiated an agreement just before infringement began."[2]

The hypothetical license is distinguished from a real-world license in various respects. For example, (1) the asserted patents are assumed to be valid and infringed,[3] (2) the parties are willing negotiators,[4] (3) the parties are both assumed to be prudent negotiators,[5] (4) there are no information asymmetries,[6] (5) the parties may have knowledge of certain future information,[7] (6) the license scope is limited to a bare patent license, (7) the negotiations occur on the eve of infringement,[8] and (8) the resulting payment structure is typically a running royalty or lump sum payment.

One technique to determine the reasonable royalty under the hypothetical license is to compare the licensor's minimum willingness to accept and the licensee's maximum willingness to pay. In the bargaining literature, this is known as the Zone of Possible Agreement or the bargaining range.[9] The bargaining range is fertile ground for a negotiated royalty rate. In certain situations, the hypothetical licensing arrangement can generate the expectation of profits for both the licensee and licensor.[10] In other situations, a contemplated hypothetical license may not be mutually beneficial, the licensor may not wish to grant a license, and/or the licensee may be unwilling to accept a license at the offered terms. It is quite possible there will be no overlap in the parties' respective bargaining ranges. In a real-world negotiation, typically no bargaining range will exist if the licensor's minimum willingness to accept exceeds the licensee's expected incremental profits derived through its use of the patented invention. Nevertheless, the hypothetical negotiation construct requires that the hypothetical license be granted,[11] which guarantees the licensor "in no event less than a reasonable royalty,"[12] even if the parties may not reach an agreement in a real-world negotiation.

For example, consider a licensor whose patent-practicing products earn a profit of $2.00 per unit and an infringer whose profitability on its accused product is $1.00 per unit.[13] These products are substitutes for each other, and absent the

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1 Determination of the reasonable royalty under the "willing licensor-willing licensee" approach is often done through use of the *Georgia-Pacific* factors (see *Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970)), although use of the *Georgia-Pacific* factors is not required. See, for example, *Whitserve, LLC v. Computer Packages, Inc.*, 694 F. 3d 10, 31 (Fed. Cir. 2012); *Energy Transp. Group, Inc. v. William Demant Holdings A/S*, 697 F.3d 1342, 1357 (Fed. Cir. 2012).

2 *Lucent Technologies, Inc., v. Gateway, Inc*. 580 F. 3d 1301, 1324 (Fed. Cir. 2009).

3 *Id*. at 1325.

4 *Fromson v. Western Litho Plate and Supply Co.,* 853 F. 2d 1568, 1575 (Fed. Cir. 1988).

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

6 *LaserDynamics, Inc. v. Quanta Computer, Inc*. 694 F. 3d 51, 76 (Fed. Cir. 2012).

7 *Fromson v. Western Litho Plate and Supply Co.,* 853 F. 2d 1568, 1575 (Fed. Cir. 1988).

8 *Integra Lifesciences I, Ltd. v. Merck KGaA*, 331 F. 3d 860, 869 (Fed. Cir. 2003); *LaserDynamics, Inc. v. Quanta Computer, Inc*. 694 F. 3d 51, 76 (Fed. Cir. 2012).

9 See, for example, Harvard Law School, "zone of possible agreement" [webpage], available at: https://www.pon.harvard.edu/tag/zone-of-possible-agreement/

10 By way of example, the Federal Circuit held that "the basic premise of the hypothetical negotiation in this case would have been the opportunity for making substantial profits if the two sides were willing to join forces." See *Gaylord v. United States*, 777 F. 3d 1363, 1368 (Fed. Cir. 2015).

11 The Federal Circuit stated that the hypothetical negotiation "methodology encompasses fantasy … because it requires a court to imagine what warring parties would have agreed to as willing negotiators." See *Fromson v. Western Litho Plate and Supply Co.,* 853 F. 2d 1568, 1575 (Fed. Cir. 1988). But, as the 6th Circuit stated in *Panduit*, "[t]here is, of course, no actual willingness on either side." The Federal Circuit has also described the license resulting from the hypothetical negotiation as a "form of compulsory license, against the will and interest of the person wronged, in favor of the wrongdoer." See *Rite-Hite Corp. v. Kelley Co., Inc*., 56 F. 3d 1538, 1555 (Fed. Cir. 1995) citing *Del Mar,* 836 F.2d at 1328, 5 USPQ2d at 1261.

12 35 U.S.C. § 284

13 For this stylized example, assume that no apportionment is required or that the infringer's apportioned profitability is $1.00 per unit.

infringement, the patentee believes it would likely make the sale. If the patentee is unable to establish a lost profits claim,[14] the patentee may then seek a reasonable royalty.[15] When seeking a royalty, the licensor may still argue that, from a business perspective, a royalty rate of less than $2.00 per unit would leave it worse off than making the sales itself. Conversely, the licensee would typically argue that a royalty rate greater than $1.00 per unit offers no economic incentive to take a license.[16] In a real-world negotiation where there is no bargaining range, it is unlikely the parties would come to an agreement. Under the hypothetical negotiation construct, the parties must reach an agreement. How then should practitioners proceed when evaluating a reasonable royalty in such a scenario?

This article reviews guidance relevant to determining a reasonable royalty when there is no clear overlap in the parties' willingness to pay. It focuses on the role of the infringer's profit in determining the reasonable royalty and reviews the circumstances under which a royalty may exceed the infringer's profit.[17] Section II reviews the purpose of a reasonable royalty. Section III discusses issues pertinent to compensating the patentee fully in light of the licensee's profit. Section IV addresses the distinction between the infringer's anticipated and actual profits. Section V summarizes selected Federal Circuit decisions, and Section VI concludes.

II. Purpose of a Reasonable Royalty

In discussing the purpose of a reasonable royalty, it is useful to start with 35 U.S.C. § 284, which states:

> 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.

The Federal Circuit has described the reasonable royalty damages remedy as "merely the floor below which damages shall not fall."[18] While the concept of a reasonable royalty providing a damages floor is understood,[19] the question remains as to the purpose of the reasonable royalty under § 284. As summarized by the Federal Circuit in *Mars v. Coin Acceptors (2008)*, the Supreme Court stated that "[i]n enacting § 284, Congress sought to ensure that the patent owner would in fact receive full compensation for any damages [the patentee] suffered as a result of the infringement,"[20] and "while the statutory text states tersely that the patentee receive adequate damages, the Supreme Court has interpreted this to mean that adequate damages should approximate those damages that will *fully compensate* the patentee for infringement."[21]

In *Astrazeneca v. Apotex* (2015), the Federal Circuit stated that "the reasonable royalty theory of damages ... seeks to compensate the patentee not for lost sales caused by the infringement, but for its lost opportunity to obtain a reasonable royalty that the infringer would have been willing to pay if it had been barred from infringing."[22] In *Astrazeneca*, the Federal Circuit also held that in "determining what such a reasonable royalty would be, the district court was required to assess

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14 Lost profits is a separate patent damages remedy under which the patentee may recover its lost profits instead of a reasonable royalty if it can prove it lost sales it otherwise would have made due to the alleged infringement. Lost profit claims are often demonstrated through application of the factors set forth in *Panduit Corp. v. Stahlin Bros. Fibre Works*, 575 F. 2d 1152 (6th Cir. 1978).

15 Patentees may of course claim lost profits and a reasonable royalty on sales not subject to the lost profits claim.

16 There are exceptions, such as the infringing product being a loss leader for the defendant or the possibility of the defendant generating additional profits from service revenues or convoyed sales.

17 The focus in this paper is on reasonable royalties negotiated for patents that are not standard essential and are not subject to reasonable and nondiscriminatory terms (RAND)/fair, reasonable, and nondiscriminatory terms (FRAND) commitments.

18 *Bandag, Inc. v. Gerrard Tire Co., Inc.* 704 F.2d 1578, 1583, 217 USPQ 977, 981 (Fed. Cir. 1983).

19 See, for example, *State Industries, Inc. v. Mor-Flo Industries, Inc.*, 883 F. 2d 1573, 1577 (Fed. Cir. 1989).

20 *Mars, Inc. v. Coin Acceptors, Inc.*, 527 F. 3d 1359, 1366 (Fed. Cir. 2008) (internal quotation marks omitted) citing *Gen. Motors Corp. v. Devex Corp.*, 461 U.S. 648, 654-55, 103 S. Ct. 2058, 76 L.Ed.2d 211 (1983).

21 *Ibid.* (internal quotation marks omitted; italics in original) citing *Rite-Hite Corp. v. Kelley Co., Inc.* 56 F. 3d 1538, 1545 (Fed. Cir. 1995).

22 *Astrazeneca AB v. Apotex Corp.*, 782 F.3d 1324, 1334 (Fed. Cir. 2015) citing *Lucent v. Gateway* 580 F.3d 1301, 1325 (Fed. Cir. 2009).

Astra's injury … according to what Astra could have insisted on as compensation for licensing its patents to Apotex as of the beginning of Apotex's infringement."[23]

From the infringer's point of view, there is still the question of whether a reasonable royalty need leave it with a profit, and, if yes, a profit under which metric? Indeed, *Georgia-Pacific* factor 15 addresses the "amount that … a licensee … would have been willing to pay as a royalty and yet be able to make a reasonable profit."[24] In *Trans-World Mfg. v. Al Nyman & Sons* (Fed. Cir. 1984), the Federal Circuit stated that a "reasonable royalty is the amount that a person, desiring to manufacture [, use, or] sell a patented article, as a business proposition, would be willing to pay as a royalty and yet be able to make [, use, or] sell the patented article, in the market, at a reasonable profit."[25]

As discussed subsequently, although certain court decisions reference a reasonable royalty that leaves the defendant with a "reasonable profit" after taking a license, in practice the issue is more nuanced. As subsequent Federal Circuit decisions articulate, it is useful to consider the different types of profits and specific facts and circumstances in each matter.

III. Fully Compensating the Patentee and the Infringer's Profit

Starting from the premise that the reasonable royalty under § 284 is meant to "fully compensate" the patentee and provide the licensor what it "could have insisted on as compensation for licensing its patents," it is useful to consider how this guidance reconciles with the negotiation dynamics that may occur between licensor and licensee at the hypothetical negotiation. From an economic perspective, it is not difficult to envision a scenario in which the licensor may seek a reasonable royalty that exceeds the infringer's profits. The licensor need not necessarily be motivated by a desire to impose a high royalty for such a scenario to arise. All that is required is a dynamic in which the licensor's profits from its next best alternative to licensing exceed the infringer's profits.

In patent infringement litigation, the licensor's damages expert may face challenges if he or she advances a damages claim that seeks a royalty rate equal to the licensor's expected profits.[26] Even if the expert's basis for seeking such a royalty were economically rational, in a litigation setting the accused infringer would likely assert that such a proffered royalty was merely a means of claiming lost profits by avoiding application of *Panduit* and other means of establishing lost profits.

Indeed, as the Federal Circuit has held, "[t]o recover lost profits damages for patent infringement, the patent owner must show that it would have received the additional profits 'but for' the infringement," and the "patent owner bears the burden to present evidence sufficient to show a reasonable probability that it would have made the asserted profits absent infringement."[27] Therefore, if the evidence suggests the patent holder would have indeed made the sales instead of the defendant, the practitioner might consider estimating lost profits.

Setting lost profits to the side, the patent holder may still have an economic basis to seek a royalty exceeding the defendant's willingness to pay. The next section addresses how to best consider scenarios where the reasonable royalty may exceed the infringer's profits.

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23 *Astrazeneca AB v. Apotex Corp.*, 782 F.3d 1324, 1334 (Fed. Cir. 2015).

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

25 *Trans-World Mfg. Corp. v. Al Nyman & Sons, Inc*. 750 F. 2d 1552, 1568 (Fed. Cir. 1984) citing *The Goodyear Tire & Rubber Co. v. Overman Cushion Tire Co*., 95 F.2d 978, 984 37 USPQ 479, 484 (6th Cir. 1938) and *Panduit Corp. v. Stahlin Bros. Fibre Works, Inc*. 575 F.2d 1152, 197 USPQ 726 (6th Cir. 1978) (internal quotations omitted).

26 In *Mitutoyo* (Fed. Cir. 2007), no lost profits were awarded, and the Federal Circuit allowed the royalty rate of 29.2% to stand, which was the plaintiff's profit margin. The Federal Circuit stated that "it is unlikely that Mitutoyo would have been interested in less than a 29.2% rate," although in this case, the defendant's anticipated profit margin was 70%, and there was clearly a viable bargaining range. See *Mitutoyo Corp. v. Central Purchasing*, LLC, 499 F. 3d 1284 (Fed. Cir. 2007). In *Asetek* (Fed. Cir. 2017), the Federal Circuit held that "[n]egotiating for a per-unit payment equal to its per-unit profit can be a logical approach for a patent owner that is uncertain of how many sales might be lost by granting the license at issue or is just using its own experience to place a value on the right to use the technology at issue." See *Asetek Danmark A/s v. CMI USA INC.*, 852 F. 3d 1352, 1363 (Fed. Cir. 2017).

27 *King Instruments Corp. v. Perego*, 65 F.3d 941, 952 (Fed. Cir. 1995).

IV. The Infringer's Profits

As practitioners are aware, the infringer's profits may be measured under different metrics (e.g., gross profits, net profits, incremental profits). With respect to analyzing the infringer's profits, the Federal Circuit has held that the metric used to measure the infringer's profitability is a matter specific to facts and circumstances of each case. The Federal Circuit stated that "[w]e have never held that any one profit accounting methodology is appropriate in all industries, for all companies, in all cases. The selection of the appropriate method of profit accounting in the circumstances is properly left to the broad discretion of the district court."[28] Accordingly, the term *profit* is used in a general sense unless otherwise specified. Although the measurement of profit may vary by case, the Federal Circuit has commented on the infringer's anticipated (or expected) profits and actual profits, as described in Section V.

The Federal Judicial Center's Pocket Guide on Compensatory Damages Issues in Patent Litigation states that "[a] fundamental premise of the hypothetical negotiation form of reasonable royalty analysis is that the suppositious licensee would be left with *some* anticipated profit after paying the royalty."[29] With respect to the term "anticipated profit," the *Pocket Guide* notes that "[a]s evidence of the profits the accused infringer at the hypothetical negotiation table would have expected to make from using the invention, actual profits are like evidence of postnegotiation license agreements, in that the relevance of the infringer's actual profits depends on whether the circumstances under which those profits were made were comparable to what the negotiation party would have anticipated or expected."[30] Further, "[t]hat an infringer actually made unexpectedly low profits, or even lost money, from its infringing use may have little or no relevance, and a reasonable royalty may exceed the infringer's actual profit."[31] The Federal Circuit has held that "[e]vidence of the infringer's actual profits generally is admissible as probative of his anticipated profits."[32]

Finally, the infringer's profit may not always be purely a function of the infringer's cost structure. For example, consider a scenario in which the infringer's accused product is deliberately priced lower than competing products in order to gain market share or achieve some other business objective. From an economic perspective, it is not always apparent that the infringer's profit in such a scenario should act as a constraint on the royalty.

V. Overview of Selected Federal Circuit Decisions

The Federal Circuit has addressed the nexus between the infringer's profit and the royalty rate in a number of cases.[33] Typically, the accused infringer appealed the royalty rate awarded by the district court on the grounds that the royalty rate would leave it with no or limited profits. The following cases are discussed in chronological order.

In *Hanson v. Alpine Valley* (Fed. Cir. 1983), the patent-in-suit covered "a method and apparatus for making snow used in winter sports."[34] The magistrate determined that the patent generated a savings of $75 per unit and concluded that a

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28 *Mars, Inc. v. Coin Acceptors, Inc.*, 527 F. 3d 1359, 1375 (Fed. Cir. 2008).

29 Federal Judicial Center's *Pocket Guide on Compensatory Damages Issues in Patent Litigation* (Second Edition), p. 23 (italics in original; underline added). The *Pocket Guide* also comments that "[a]lthough, economically speaking, exceptional circumstances exist where the infringer's anticipated profit flowing directly from infringing sales may not represent a reasonable cap, such as a loss leader, those circumstances should be considered from the broad perspective of benefit to the infringer, not just benefit from the infringing sales, if those benefits can be quantified." See *Id*. at footnote 105.

30 *Id*., p. 24.

31 *Ibid*.

32 *Trans-World Mfg. Corp. v. Al Nyman & Sons, Inc*. 750 F. 2d 1552, 1568 (Fed. Cir. 1984) citing *Locklin v. Switzer Brothers, Inc*. 235 F. Supp. 904, 906, 143 USPQ 233, 238 (N.D. Cal. 1964) and 5 Chisum, *Patents* § 20.03[3][b][iv].

33 The Federal Circuit cases discussed in this section were identified by reviewing *Aqua Shield* (Fed. Cir. 2015) and predecessor cases cited. The cases discussed here may not be an exhaustive listing.

34 *Hanson v. Alpine Valley Ski Area, Inc*. 718 F. 2d 1075, 1076 (Fed. Cir. 1983).

reasonable royalty would be one-third of this savings, or $25 per unit.[35] The magistrate also found that the "proofs offered … do not suggest any basis for establishing profits experienced by the infringing Defendant in the use of the process patent."[36] The Federal Circuit stated that it had "no basis for rejecting that factual determination."[37] In its appeal, Alpine argued that "the royalty the magistrate set is unreasonable because it would not have allowed it to make a profit."[38] In evaluating Alpine's assertion, the Federal Circuit, quoting the Eighth Circuit, stated "that a reasonable royalty would leave an infringer with a reasonable profit … is implicit."[39]

In *Hanson*, the Federal Circuit observed, as the royalty was based on cost savings, that "it is difficult to understand the basis of Alpine's contention that the royalty would not have allowed it to make a profit."[40] The Federal Circuit further commented that the "issue of the infringer's profit is to be determined not on the basis of a hindsight evaluation of what actually happened, but on the basis of what the parties to the hypothetical license negotiations would have considered at the time of the negotiations."[41] Citing *Panduit*, the Federal Circuit commented that "[w]hether, as events unfurled thereafter, [Alpine Valley] would have made an actual profit, while paying the royalty determined as of [1972], is irrelevant."[42] The Federal Circuit concluded, "Alpine has not shown that the royalty the magistrate set would not have allowed it a reasonable profit."[43]

In *Radio Steel v. MTD Products* (Fed. Cir. 1986), the asserted patent covered an improved wheelbarrow, and the plaintiff asserted that the defendant manufactured and sold infringing products.[44] The plaintiff recovered lost profits on the defendant's sales to certain retailers and was awarded a reasonable royalty on sales to other retailers.[45] The district court awarded the plaintiff a royalty of 10%, and the defendant's expected profit margin on the accused products was 6%. The defendant appealed the district court's decision and argued that the "ten percent is unreasonably high because it far exceeds the profit MTD actually made."[46] Despite the defendant's argument, the Federal Circuit stated that "we have no basis for rejecting the district court's selection of ten percent as a reasonable royalty rate."[47] The district court's determination of the 10% royalty rate was informed by Radio Steel's testimony that "its net profit from its sales of patented wheelbarrows was ten plus-or-minus two percent."[48] The Federal Circuit, citing *Panduit*, further stated that the "determination of a reasonably royalty, however, is based not on the infringer's profit, but on the royalty to which a willing licensor and a willing licensee would have agreed at the time the infringement began."[49]

The Federal Circuit did not explicitly address the issue of the 10% royalty rate exceeding the defendant's "expected" net profit "of about six percent."[50] However, some facts specific to this case may offer insight as to why the Federal Circuit upheld the district court's 10% royalty rate. The district court "observed that Radio Steel lost sales not only of the patented wheelbarrows, but also of collateral items … [and] MTD made substantial sales … of noninfringing wheelbarrows with

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35 *Id*. at 1077.

36 *Id*. at 1078.

37 *Ibid*.

38 *Id*. at 1081.

39 *Ibid*. quoting *Square Liner 360°, Inc. v. Chisum*, 691 F. 2d 362, 377, 216 USPQ 666, 677 (8th Cir. 1982) and referencing *Leesona Corporation v. The United States*, 599 F. 2d at 970-971, 202 USPQ at 436 (U.S. Ct. Cl. 1979).

40 *Ibid*.

41 *Ibid*.

42 *Ibid*.

43 *Ibid*.

44 *Radio Steel & Mfg. Co. v. MTD Products, Inc.*, 788 F. 2d 1554, 1555 (Fed. Cir. 1986).

45 *Ibid*.

46 *Id*. at 1557.

47 *Ibid*.

48 *Ibid*.

49 *Ibid*. (citing *Panduit* at 1158).

50 *Ibid*.

the sale of the infringing wheelbarrows."[51] The Federal Circuit also commented that "the district court could well have discounted MTD's profit figures because the treasurer also testified that the infringing [products] might have been utilized as loss-leaders at various times during the period of infringement."[52]

In *State Industries v. Mor-Flo* (Fed. Cir. 1989), the asserted patent covered "a method of insulating water heaters with foam."[53] State Industries ("State") received lost profits on approximately 40% of Mor-Flo's infringing sales and a royalty of 3% on the remaining infringing sales.[54] Considerations pertinent to the determination of a royalty rate included "a growing demand for foam-insulated water heaters" and the patent-in-suit describing "the first method developed to meet this demand."[55] In addition, "there were no other methods available during the pertinent period that were either noninfringing or acceptable as substitutes."[56] The Federal Circuit also summarized that the "water heater industry is intensely competitive and marked by small profit margins."[57]

At trial, State's president testified he would have sought a royalty of 8% to 10%, and State's expert testified the parties would have agreed to an 8% royalty.[58] Mor-Flo "argued that in no event should the royalty rate be above its net profit margin which, for the seventeen months preceding the date infringement began, was 2.1%" and sought an effective royalty rate of 0.163%.[59] For reference, State's incremental profits on its water heaters ranged between 15.76% and 17.51%.[60] However, the Federal Circuit commented that at trial, "Mor-Flo presented no evidence of what it would have paid for a license."[61] The district court awarded State a royalty of 3% on sales that were not subject to lost profits.[62]

In response to the Mor-Flo's position, the Federal Circuit (citing to *Radio Steel*) held that the "determination of a reasonable royalty, however, is based not on the infringer's profit margin, but on what a willing licensor and licensee would bargain for at hypothetical negotiations on the date infringement started."[63] The Federal Circuit also stated, again citing *Radio Steel*, that "[t]here is no rule that a royalty be no higher than the infringer's net profit margin."[64]

In this case, it does not appear that the defendant supplied evidence of forecasted or expected profits, but rather its actual profits. The Federal Circuit did address case-specific considerations relevant to the determination of the royalty rate. Namely, that the "value [of the patented invention] to Mor-Flo was obvious" and that the "value of collateral sales could also be factored into the royalty rate."[65] The Federal Circuit further held that while Mor-Flo presented its net profit margin of 2.1%, "it was not inappropriate for the district court to consider gross profits."[66] Mor-Flo's gross profit over the same seventeen-month period was 19.6%, "with a net incremental profit of 17.48%" and "during the period of infringement, Mor-Flo's net profits varied from 5.9% to 7.3%."[67] The Federal Circuit concluded that "[i]n light of all of this, it seems to us the district court could very well conclude that a royalty of 3% of Mor-Flo's net sales is reasonable."[68]

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51 *Id*. at 1556.

52 *Ibid*.

53 *State Industries, Inc. v. Mor-Flo Industries, Inc*. 883 F. 2d 1573, 1575 (Fed. Cir. 1989).

54 *Ibid*.

55 *Id*. at 1576.

56 *Ibid*.

57 *Id*. at 1575-1576.

58 *Id*. at 1580.

59 *Id*. at 1576.

60 *State Industries, Inc. v. Mor-Flo Industries, Inc*., Nos. CIV-2-84-276 and CIV-2-85-26, 1988 WL 281580 (E.D. Tenn. Jul. 21, 1988), at *5.

61 *State Industries, Inc.,* 883 F. 2d at 1576.

62 *Ibid*.

63 *Id*. at 1580.

64 *Id*. at 1580-1581.

65 *Ibid*.

66 *Id*. at 1580.

67 *Id*. at 1580-1581.

68 *Id*. at 1581.

In response to State's requested royalty rate of 8% to 10%, the Federal Circuit commented on the requested royalty rate relative to the profits the licensee could earn from noninfringing alternatives, noting that "notwithstanding State's asserted hope to license the method in the 8 to 10% range, it was well within the district court's province to conclude it would not have succeeded, that potential licensees would have stayed with lesser alternatives promising some profit, rather than risk losing money by signing on at that high rate."[69]

In *Lindemann v. American Hoist* (Fed. Cir. 1990), the asserted patent covered hydraulic scrap shears.[70] In this case, the plaintiff had never sold its invention in the United States,[71] and its "sole source of evidence on the damages amount came from its expert, [its] patent attorney."[72] The plaintiff's patent attorney "gave his opinion that a reasonable royalty would be 75%-85% of AmHoist's targeted gross profit, yielding a royalty rate of 20%-25% of the net selling price of the entire machine and sales of spare parts."[73]

The district court granted the plaintiff "nominal" damages of $10,000. In reaching this determination, the district court held that "it can do no more than render substantial justice. Plaintiff's damages calculations are based on the infringer's anticipated profits which bear no relationship to the actual profits. Alternatively, Defendant's damage calculations are based on the anticipated net profits on the sale of the split ram as an option"; and found that this "presents an unacceptable solution given the existing case law" and thus awarded the nominal amount of $10,000.[74]

On appeal, the Federal Circuit found that "the paucity of Lindemann's evidence makes its challenge to the amount of the [royalty] award difficult to understand when an award far less than $10,000 would have been supported by the evidence."[75] The court also found that the plaintiff "failed to carry its burden of proving that its proposed royalty would be reasonable"[76] and noted that the patent damages statute "does not mean that a patentee who puts on little or no satisfactory evidence of a reasonable royalty can successfully appeal on the ground that the amount awarded by the court is not 'reasonable.'"[77] Reiterating that the plaintiff had not met its burden, the Federal Circuit held that the damages opinion testified to by the plaintiff's patent attorney "was based on a nonexistent or at best woefully incomplete understanding of the market and on an estimate of anticipated profits that bore no relation to actual profits, [the patent attorney] having no knowledge of the latter."[78]

As summarized by the Federal Circuit, the plaintiff's patent attorney also erroneously testified "that courts do not consider actual net profits 'in these [hypothetical negotiation] situations.'"[79] Even though it sought a royalty of 20% to 25% of the net sales price, the plaintiff, in one of its briefs, admitted that the defendant's anticipated net profit was 15%. Given this admission, the Federal Circuit stated that the plaintiff's "opinion that AmHoist 'would agree to pay a royalty in excess of what it expected to make in profit' was, in light of all the evidence in this case, absurd."[80]

This case is instructive in that the Federal Circuit did not state that a royalty rate could not exceed the defendant's profit margin. Rather, the court emphasized repeatedly that the plaintiff had not met its burden in demonstrating that a royalty award of more than the district court's "nominal" amount of $10,000 was inappropriately low. The case is instructive also in distinguishing between actual profits and anticipated profits, which can be relevant to determining a reasonable royalty.

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69 *Ibid*.

70 *Lindemann Maschinefabrik v. American Hoist & Derrick Co*., 895 F. 2d 1452, 1455 (Fed. Cir. 1990).

71 *Id*. at 1455.

72 *Lindemann Maschinefabrik v. American Hoist & Derrick Co*., 895 F. 2d 1403, 1404 (Fed. Cir. 1990).

73 *Ibid*.

74 *Id*. at 1404-1405.

75 *Id*. at 1405.

76 *Id*. at 1406.

77 *Id*. at 1407.

78 *Id*. at 1407-1408.

79 *Ibid*.

80 *Id*. at 1408 (Fed. Cir. 1990), citing *Hanson v. Alpine Valley Ski Area, Inc*. 718 F.2d, 1081, 219 USPQ 679, 6945-85 (Fed. Cir. 1983).

In *Monsanto v. Ralph* (Fed. Cir. 2004), the plaintiff asserted patents for "recombinant gene sequences that can be inserted into plant seeds to protect them against the effects of glyphosate-based herbicides."[81] The defendant was alleged to have infringed the patents-in-suit for use in various seed types. It merits mention that there was a disagreement between the plaintiff and defendant as to what the reasonable royalty was for. In purchasing the seed from Monsanto, the defendant agreed, at a high level, to not save any seed for planting in the next crop year, and the parties executed a Technology Agreement.[82]

The Technology Agreement contained a Technology Fee of $5.00 per bag for soybean seed and $112.80 per bag for stacked-trait cottonseed.[83] The defendant argued that the Technology Fee was an established royalty.[84] The Federal Circuit agreed in a limited sense, stating that the "Technology Fee is a royalty, to be sure, but it is a royalty for only a narrow, contractually agreed-upon, use of the seed"; and the "Technology Fee is therefore not an established royalty for planting or transferring saved seed, the uses that Ralph made of the patented invention."[85]

The jury returned a royalty per bag based on the seed type: $55.04 per bag of soybean seed, $548 per bag for cottonseed, $52.12 per bag for soybean seeds, $556.80 per bag for cottonseed (a different year's seed), and $1,113.36 per bag for additional bags of cottonseed that the defendant transferred to another party.[86] Monsanto asserted that the royalties were "all reasonable royalties for licenses to save and replant for a single year; and that $1113.36/bag is a reasonable royalty for a license to save and transfer cottonseed, notwithstanding the fact that Monsanto would not agree to ever grant any such unlimited licenses."[87]

The defendant did not have its damage expert testify at trial,[88] and on appeal the defendant argued the district court "erred by refusing to limit damages to a reasonable royalty for the use that he actually made of the seed, rather than for the uses that he could potentially have made."[89] The defendant also argued that "a reasonable royalty deduced through a hypothetical negotiation process can never be set so high that no rational self-interested wealth-maximizing infringer acting *ex ante* would ever have agreed to it."[90] The defendant asserted that under *Georgia-Pacific*, "an infringer be given a reasonable opportunity *ex ante* to make a profit"[91] and that "no sane farmer would ever negotiate a royalty in excess of his anticipated profits."[92]

In response, the Federal Circuit acknowledged that "an infringer's anticipated profit from use of the patented invention is '[a]mong the factors to be considered in determining' a reasonable royalty" under *Georgia-Pacific*. However, the Federal Circuit reiterated that "the law does not require that an infringer be permitted to make a profit."[93] The Federal Circuit concluded that "the jury's determination on reasonable royalties was supported by the evidence of record and was properly accepted by the district court."[94]

In *Golight v. Wal-Mart* (Fed. Cir. 2004), the asserted patent was "for a wireless, remote-controlled, portable search light."[95] The district court applied a royalty rate of $31.80 per unit. This royalty rate was the rate presented by the plaintiff's damages expert. The expert determined this rate by "constructing a hypothetical licensing negotiation and determining that if

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81 *Monsanto Co. v. Ralph*, 382 F. 3d 1374, 1377 (Fed. Cir. 2004).

82 *Ibid*.

83 *Ibid*.

84 *Id*. at 1383.

85 *Ibid*.

86 *Id*. at 1379.

87 *Id*. at 1383.

88 *Ibid*.

89 *Id*. at 1383-1384.

90 *Id*. at 1383.

91 *Ibid*.

92 *Id*. at 1384.

93 *Ibid*.

94 *Ibid*.

95 *Golight, Inc. v. Wal-Mart Stores, Inc.* 355 F. 3d 1327, 1329 (Fed. Cir. 2004).

forced to settle on a royalty rate, Golight and Wal-Mart would have reached a rate equal to 50% of Golight's incremental profit."[96] In reaching its royalty rate determination, the district court pointed to specific *Georgia-Pacific* factors as favoring a higher royalty rate. The district court, citing *State v. Mor-Flo*, stated that "the fact that a hypothetical royalty is not based on the infringer's actual or projected profits does not make the award unreasonable; there is no rule that the royalty not exceed the infringer's net profit margin."[97]

Wal-Mart argued in its appeal that the royalty was too high, as it would have resulted in Wal-Mart selling the accused product below cost. Wal-Mart further argued that "it could not have raised the price of its products to cover the cost of the royalty because it was already selling the products at a loss."[98] Wal-Mart proposed that the royalty be capped at $8.00 per unit, which was Wal-Mart's forecasted profit for the accused product.[99] Wal-Mart presented no expert testimony on a reasonable royalty, and the Federal Circuit commented that the "evidence Wal-Mart relies on for its position is sparse, comprising a few pages of sales data, the testimony of one witness stating the cost of production of the [accused] device, and … testimony of a Sam's Club manager."[100] The Federal Circuit upheld the royalty rate determined by the district court. Also citing *State v. Mor-Flo*, the Federal Circuit reiterated that "[t]here is no rule that a royalty be no higher than the infringer's net profit margin." The Federal Circuit found that "Wal-Mart's evidence in this case establishes nothing more than what it might have preferred to pay, which is not the test for damages."[101]

The Federal Circuit acknowledged $8.00 per unit was Wal-Mart's forecasted profit but did not further address the royalty rate of $31.80 against Wal-Mart's forecasted profit as opposed to actual profit. It is unclear if the Federal Circuit was swayed by the "sparse" nature of Wal-Mart's evidence, or if the Federal Circuit would have ruled differently had Wal-Mart presented different evidence.

In *Mars, Inc. v. Coin Acceptors, Inc*. (Fed. Cir. 2008), the asserted patents related to "technology used in vending machines to authenticate coins."[102] Based on an analysis of the *Georgia-Pacific* factors, the district court issued a "blended 7% royalty rate for the two patents" at issue.[103] The defendant appealed the 7% royalty rate imposed by the district court.[104] The defendant argued that the district court erred by relying on its incremental profit rather than its operating profit to calculate a reasonable royalty.[105] The district court found that the market for coin changers was "very profitable."[106]

The Federal Circuit upheld the district court's finding. With respect to the defendant's position on the royalty rate being too high, the Federal Circuit commented that "we reject Coinco's argument that a reasonable royalty can never result in an infringer operating at a loss."[107] Citing *Monsanto* and *State*, the Federal Circuit reiterated that while the infringer's anticipated profit is among the factors to be considered when determining a reasonable royalty, the infringer is not required by law to be permitted to make a profit ("There is no rule that a royalty be higher than the infringer's net profit margin").[108]

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96 *Golight, Inc. v. Wal-Mart Stores, Inc*. 216 F. Supp. 2d 1175, 1189 (D. Col. 2002).

97 *Id*. at 1182.

98 *Golight, Inc. v. Wal-Mart Stores, Inc*. 355 F. 3d 1327, 1338 (Fed. Cir. 2004).

99 *Ibid*.

100 *Ibid*.

101 *Ibid*.

102 *Mars, Inc. v. Coin Acceptors, Inc*., 527 F. 3d 1359, 1363 (Fed. Cir. 2008).

103 *Id*. at 1364.

104 *Id*. at 1365.

105 *Id*. at 1372. The defendant presented two other arguments that the royalty rate was too high. The defendant argued that the "district court erred by awarding a reasonable royalty rate higher than the cost … of implementing acceptable noninfringing alternatives" and that the royalty rate could not exceed 4% given the plaintiff's representations to a government tax authority. The Federal Circuit rejected both arguments. In rejecting the argument that the acceptable noninfringing alternative argument is a limit on the reasonable royalty, the Federal Circuit stated that "an infringer may be liable for damages, including reasonable royalty damages, that exceed the amount that the infringer could have paid to avoid infringement." *Id*. at 1373.

106 *Id*. at 1374.

107 *Ibid*.

108 *Ibid*.

In *Douglas Dynamics, LLC v. Buyers Prod. Co.* (Fed. Cir. 2013), the plaintiff asserted various patents related to snowplow mounting assemblies.[109] The plaintiff and defendant competed against each other.[110]

The Federal Circuit vacated the district court's royalty rate for two reasons. The royalty rate was based on application of "the infamous 25% rule of thumb," and "the district court clearly erred by limiting the ongoing royalty rate based on Buyers's profit margins."[111] The Federal Circuit added that "the district court clearly erred by ensuring the ongoing royalty rate it awarded would 'leave some room for profit' by Buyers at its current prices."[112] Citing *Golight*, the Federal Circuit restated that it "has held that an infringer's net profit margin is not the ceiling by which a reasonable royalty is capped."[113] The Federal Circuit further stated that the "infringer's selling price can be raised if necessary to accommodate a higher royalty rate, and indeed, requiring the infringer to do so may be the only way to adequately compensate the patentee for the use of its technology."[114]

Aqua Shield v. Inter Pool Cover Team et al. (Fed. Cir. 2014), is distinct from the other cases discussed thus far. In this case, the royalty rate (set by the district court) did not exceed the defendants' profit margin. Nevertheless, *Aqua Shield* is instructive as, on appeal, the Federal Circuit addressed the issue of actual profits and anticipated profits and held that what an "infringer could profitably pay by going about its business in its particular way does not set the market value that the hypothetical negotiation aims to identify."[115]

The asserted patent in this case claimed "enclosures designed to cover pools or create sun rooms."[116] The district court awarded a royalty of $10,800, which was calculated by multiplying infringing sales of $2,700,000 by a 5% net profit margin to yield net profits of $135,000. On this amount, the court applied a royalty of "eight percent to reflect the *Georgia-Pacific* considerations that pointed toward a higher royalty"[117] to reach the royalty amount of $10,800. In determining the royalty rate, the district court considered specifically the benefits of the patented invention "while still allowing Defendants a profit on infringing sales."[118]

The plaintiff argued that, absent other evidence to determine a royalty, the district court could consider the defendants' profits. The plaintiff asserted that the defendants' "net profit on infringing sales ranged from 12% to 39%."[119] Upon review of these figures, the district court observed that the plaintiff's asserted net profit "figure does not represent a credible net profit figure because it reflects only transaction expenses related to the sale of each individual infringing [product]. It does not reflect company-wide salaries or non-transaction related overhead."[120] The district court concluded that "the percentages that Plaintiff cites are not accurate net profit figures" and that it could not "rely on these figures to represent Defendants' net profit in determining a reasonable royalty."[121]

On appeal, the plaintiff challenged the district court's royalty-award methodology. The plaintiff challenged how the district court applied the *Georgia-Pacific* approach to arrive ultimately at the reasonable royalty damages.[122] The Federal Circuit found that the "district court correctly noted that the infringer's actual profits earned during the period of infringement

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109 *Douglas Dynamics, LLC v. Buyers Prod. Co.*, 717 F. 3d 1336, 1338 (Fed. Cir. 2013).

110 *Ibid.*

111 *Id.* at 1346.

112 *Ibid.*

113 *Ibid.*

114 *Ibid.*

115 *Aqua Shield v. Inter Pool Cover Team et al.*, 774 F. 3d 766, 771 (Fed. Cir. 2014).

116 *Id.* at 770.

117 *Ibid.*

118 *Ibid.*

119 *Aqua Shield, Inc. v. Inter Pool Cover Team et al.,* No. 2:09-CV-13 TS, 2013 WL 6410975, at *6.

120 *Ibid.*

121 *Ibid.*

122 *Aqua Shield v. Inter Pool Cover Team et al.*, 774 F. 3d 766, 770 (Fed. Cir. 2014).

can be relevant to the inquiry ... but it erred in the use it made of [the] profit figures."[123] The Federal Circuit, citing *Dowagiac v. Minn. Moline (S. Ct. 1915)*, stated that the "'value of what was taken'—the value of the use of the patented technology—measures the royalty."[124]

The Federal Circuit addressed the issue of actual and anticipated profits again by adding that:

> ... [w]hat an infringer's profits actually turned out to have been during the infringement period may be relevant, but only in an indirect and limited way—as some evidence bearing on a directly relevant inquiry into anticipated profits. Thus, when the infringer is a profit-making enterprise, a reasonable royalty is the amount that 'a person, desiring to manufacture[, use, or] sell a patented article, as a business proposition, would be willing to pay as a royalty and yet be able to make[, use, or] sell the patented article, in the market, at a reasonable profit.[125]

The Federal Circuit went on to state that in:

> ... hypothetical-negotiation terms, the core economic question is what the infringer, in a hypothetical pre-infringement negotiation under hypothetical conditions, would have anticipated the profit-making potential of use of the patented technology to be, compared to using non-infringing alternatives. If a potential user of the patented technology would expect to earn X profits in the future without using the patented technology, and X + Y profits by using the patented technology, it would seem, as a prima facie matter, economically irrational to pay more than Y as a royalty—paying more would produce a loss compared to forgoing use of the patented technology.[126]

The Federal Circuit held that the "hypothetical negotiation is hypothetical not only because, in the typical case, no successful pre-infringement negotiation ever occurred, but also because the negotiation is constructed on hypothetical assumptions."[127] One such assumption, "bearing particularly on the anticipated-profits inquiry, abstracts away from the particular infringer's degree of efficiency."[128] The Federal Circuit held that "[a]n especially inefficient infringer—*e.g.,* one operating with needlessly high costs, wasteful practices, or poor management—is not entitled to an especially low royalty rate simply because that is all it can afford to pay without forfeiting or unduly limiting its profit if it uses the patented technology rather than alternatives. Thus, the royalty the particular infringer could profitably pay by going about its business in its particular way does not set the market value that the hypothetical negotiation aims to identify."[129]

In reaching its decision, the Federal Circuit noted that "two points are key. First, anticipated incremental profits under the hypothesized conditions are conceptually central to constraining the royalty negotiation, as recognized in *Trans-World Mfg* [130]... Second, '[e]vidence of the infringer's actual profits generally is admissible as probative of his anticipated profits.'"[131] The Federal Circuit concluded that "the district court did not err in considering [defendant's] profits. But it did err in treating the profits [defendant] actually earned during the period of infringement as a royalty cap. That treatment incorrectly replaces the hypothetical inquiry into what the parties would have anticipated, looking forward when negotiating, with a backward-looking inquiry into what turned out to have happened."[132]

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123 *Ibid.* referencing *Trans-World Mfg. Corp. v. Al Nyman & Sons, Inc*. 750 F. 2d 1552, 1568 (Fed. Cir. 1984).

124 *Ibid.*

125 *Ibid.* citing *Trans-World Mfg. Corp. v. Al Nyman & Sons, Inc.* 750 F. 2d 1552, 1568 (Fed. Cir. 1984) (internal quotations omitted, brackets in originally quoted text).

126 *Id*. at 770-771.

127 *Id*. at 771.

128 *Ibid.*

129 *Id*. at 771.

130 *Id*. at 772. Here, the Federal Circuit cited its earlier ruling in *Trans-World Mfg*., 750 F. 2d at 1568 (Fed. Cir. 1984), in which it stated that "[a]mong the factors to be considered in determining [the reasonable royalty] is the infringer's anticipated profit from use of the patented invention" and that "[e] vidence of the infringer's actual profits generally is admissible as probative of his anticipated profits."

131 *Ibid.* citing *Interactive Pictures Corp. v. Infinite Pictures, Inc*., 274 F.3d 1371, 1385 (Fed. Cir. 2001) and referencing *Sinclair Ref. Co. v. Jenkins Petrol. Process Co*., 289 U.S. 689, 698, 53 S.Ct. 736, 77 L.Ed. 1449 (1933) and *Lucent*, 580 F.3d at 1333.

132 *Ibid.* citing *Interactive Pictures Corp.* at 1385, commenting that "expectations govern, not actual results."

Another distinction the Federal Circuit drew was that the:

> … district court's analysis also incorrectly replaces the inquiry into the parties' anticipation of what profits would be earned if a royalty (of amounts being negotiated) were to be paid with an inquiry into what profits were earned when [defendant] was charging prices without accounting for any royalty. Thus, the district court seems to have simply assumed that any royalty paid by [defendant] would have directly reduced its profits, dollar for dollar. But that would not be true, in general, if [defendant] could have raised its prices (over what it actually charged for infringing sales) to account (fully or partly) for a royalty payment.[133]

In this respect, the "district court did not find, and [defendant] has not argued here, that [defendant] was selling in a perfectly competitive market in which it was forced to act as a pure price-taker. We have not been shown proof that this case is different from the typical one in which pricing might be adjusted to account for a royalty based on sales price."[134] The Federal Circuit also cited its ruling in *Douglas Dynamics* (2013) regarding the infringer's ability to raise its selling price to accommodate a higher royalty rate.[135] The Federal Circuit vacated the district court's royalty calculation, drawing attention to its "correction of the [district court's] erroneous focus on the net profits [defendant] *actually* earned."[136]

VI. Summary

Based on the cases reviewed, it does not appear that the Federal Circuit has explicitly set forth how the hypothetical negotiation should unfold where there is no bargaining range (i.e., the licensee's willingness to pay is less than the licensor's willingness to accept).[137]

The practitioner may consider whether the infringer's business practices artificially constrain the profits on the infringing product. From an economic perspective, an important question is why the infringer's profitability is lower than the patentees. This may occur due to various circumstances. To take one example, consider the scenario where the defendant sells various products and the infringing product is a "loss leader." In this case, the defendant may unprofitably sell the infringing product because customers for the infringing product also purchase more profitable, noninfringing products and/or services. In such case, constraining the royalty given the infringing product's lack of profitability would result in a royalty that is not commensurate with the value of the patented invention to the infringer. In such case, the practitioner can evaluate carefully the impact of convoyed sales on the royalty rate (i.e., *Georgia-Pacific* factor 6).

Also, consider another example where the infringing product (or service) is given away by the infringer to (potentially) reap the benefit of obtaining network effects through an increased base of users/subscribers. The infringer may desire to leverage the subscriber/user base to generate advertising revenues or sell noninfringing products or services. Still another situation could arise where multiple defendants infringe, and although the patented technology is valuable, its economic value and positive impact on an individual infringer's profitability is diluted due to widespread infringement (i.e., "tragedy of the commons").[138]

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133 *Id*. at 772.

134 *Ibid.* (original italics omitted).

135 *Id*. at 772-773.

136 *Id*. at 773 (italics in original).

137 The Federal Circuit does not require use of the hypothetical negotiation framework. As the Federal Circuit stated, "[a] reasonable royalty can be calculated from an established royalty, the infringer's profit projections for infringing sales, or a hypothetical negotiation between the patentee and infringer." See *Wordtech Sys. V. Integrated Network Solutions, Inc.*, 609 F. 3d 1308, 1319 (Fed. Cir. 2010).

138 Related to this point, in *Seymour v. McCormick*, 57 U.S. 480, 489 (S. Ct. 1854), Justice Grier commented that "[a] man who invents or discovers a new composition of matter, such as vulcanized India rubber, or a valuable medicine, may find his profit to consist in a close monopoly, forbidding any one to compete with him in the market, the patentee being himself able to supply the whole demand at his own price. If he should grant licenses to all who might desire to manufacture his composition, mutual competition might destroy the value of each license"; and "[i]f any person could use the invention or discovery by paying what a jury might suppose to be the fair value of a license, it is plain that competition would destroy the whole value of the monopoly." Although the applicable patent damages statute was the Patent Act of 1836 at the time of this case, and the justice's comments are oriented toward the impact of widespread licensing, the same basic principle elucidated by Justice Grier may also hold in the case of widespread infringement prior to infringers taking a license.

Also, the parties may, in fact, have a viable bargaining range if the infringer is not a price taker and can pass on all or part of the royalty expense to customers. As noted earlier, the Federal Circuit has stated that the "infringer's selling price can be raised if necessary to accommodate a higher royalty rate, and indeed, requiring the infringer to do so may be the only way to adequately compensate the patentee for the use of its technology."[139] If the defendant's position is that it could not raise prices, this position might be supported by evidence demonstrating the defendant is in effect a price taker, although it is unclear whether being a price taker alone would be dispositive of an infringer's inability to pay a royalty in excess of its profits on the infringing product.

As discussed throughout this paper, it is useful to examine evidence of the infringer's anticipated profits. If no evidence to this effect is in the record, it may be possible to obtain useful information in the public domain, although care should be taken to confirm that information is, in fact, pertinent to the defendant's business and an appropriate comparator. As noted earlier, the bargaining range at the hypothetical negotiation is not limited by the infringer's present-day profitability, and a viable bargaining range may have existed at the time of the hypothetical negotiation, as the parties may have considered the infringer's anticipated profits.

If still no bargaining range exists, the practitioner can of course employ other accepted methods of determining a reasonable royalty. There is always the possibility, however, that other methods may prove no more fruitful depending on the case-specific facts and information. Thus, a patentee may take a conservative approach and seek a royalty less than its willingness to accept; however, such behavior may be suboptimal from an economic perspective. Alternatively, a patentee may take solace from the Federal Circuit's holding in *Golight* that what the defendant would "prefer[] to pay … is not the test for damages."[140] At the same time, a patentee must ensure that the royalty reflects the value of the patented invention and that damages are tied carefully to the claimed invention's footprint in the marketplace.[141]

To the author's knowledge, the Federal Circuit has not ruled on the determination of a royalty rate exceeding the defendant's willingness to pay where it is indisputable that no viable bargaining range exists. It is unclear how one should reconcile a situation in which (1) the royalty is tied appropriately to the value of the claimed invention, (2) said royalty exceeds the licensee's (anticipated) profits, (3) the licensee has no economically viable way of accommodating the royalty without reducing profitability further (e.g., passing the royalty expense to customers, increases in operational efficiency), (4) the parties must reach a licensing agreement, and (5) the parties' positions are supported appropriately by evidence and testimony. Against these criteria, perhaps *Golight* is most instructive, although the Federal Circuit commented in its ruling that the "evidence Wal-Mart relies on for its position is sparse, comprising a few pages of sales data, the testimony of one witness stating the cost of production of the [accused] device, and … testimony of a Sam's Club manager."[142] It is unclear how the court would have ruled in *Golight* with a different and expanded set of information presented to it.

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139 *Douglas Dynamics, LLC v. Buyers Prod. Co.*, 717 F. 3d 1336, 1346 (Fed. Cir. 2013).

140 *Ibid.*

141 *ResQNet v. Lansa, Inc.*, 594 F.3d 860, 869 (Fed. Cir. 2010). The need to apportion patent damages should be considered in each case, particularly where the accused product is a multi-component product.

142 *Golight, Inc.,* 355 F. 3d 1327, 1338 (Fed. Cir. 2004).

Finally, this article has not directly addressed potentially important determinants of a reasonable royalty, such as application of the *Georgia-Pacific* factors, apportionment, the availability and cost of acceptable noninfringing alternatives, and the existence of comparable licenses. The practitioner should carefully draw reasonable royalty conclusions based on the case-specific evidence, facts, and circumstances. The infringer's profit is but one potential input into this analysis.[143]

143 While the Federal Circuit has allowed a royalty rate to exceed the infringer's profit margin, the court has indicated that proposed royalties that also eliminate an infringer's revenues might be subject to exclusion. In *WesternGeco LLC v. Ion Geophysical Corp*., 791 F. 3d 1340 (Fed. Cir. 2015), the plaintiff's damages expert presented a reasonable royalty in which the royalty base was not the defendant's revenues, but rather the revenues of the defendant's customers. Under the proposed damages theory, the defendant would have paid royalties in excess of its profits and even its own revenues. The district court excluded the expert, and the Federal Circuit upheld, noting that the district court "expressly based its ruling on two facts – that the royalty was profit eliminating and that it was revenue eliminating." (WesternGeco was subject to further proceedings before the Federal Circuit and the Supreme Court; however, those proceedings did not address the narrowly defined reasonable royalty issue quoted here.)

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