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PATENT DAMAGE ASSESSMENTS AFTER *RITE-HITE* AND *GRAIN* PROCESSING

SUSAN PERNG PAN*

I. BACKGROUND

The United States Patent law has its very foundation in the Constitution. Article I, Section 8 provides that "Congress shall have power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."¹ The exclusive rights of a patentee include, among others, "the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into to the United States."² Infringement of patents is defined under 35 U.S.C. § 271.³ Once infringement is found, the patentee's recourse in the courts may result in an injunction under 35 U.S.C. § 283,⁴ an award of damages, including the possibility of treble damages, under 35 U.S.C. § 284,⁵ and an award of attorney's fees under 35 U.S.C. § 285.⁶ This article will focus primarily on 35 U.S.C. § 284, and in particular, the most commonly awarded measures of damages for patent infringement, a reasonable royalty and lost profits. Further, this article will focus on the factors used for calculating damages since 1995; the year an *en banc* panel of the U.S. Court

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¹ U.S. Const. art. I, § 8, cl. 8.

² 35 U.S.C. § 154(a)(1) (1994 & Supp. IV 1998).

³ 35 U.S.C. § 271 (1994 & Supp. IV 1998).

⁴ 35 U.S.C. § 283 (1994 & Supp. IV 1998).

⁵ 35 U.S.C. § 284 (1994 & Supp. IV 1998).

⁶ 35 U.S.C. § 285 (1994 & Supp. IV 1998).

of Appeals for the Federal Circuit (“Federal Circuit”) decided *Rite-Hite Corp. v. Kelley Co, Inc.*⁷

Section 284 of Title 35 provides:

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.⁸ Increased damages under this paragraph shall not apply to provisional rights under section 154(d) of this title.⁹

The court may receive expert testimony as an aid to the determination of damages or of what royalty would be reasonable under the circumstances.¹⁰

“The amount of a prevailing party’s damages is a finding of fact on which the plaintiff bears the burden of proof by a preponderance of the evidence. Thus, where the amount is fixed by the court [or jury], review is in accordance with the clearly erroneous standard . . . A finding is ‘clearly erroneous’ when although there is evidence to support it, the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed.”¹¹ “However, certain subsidiary decisions underlying a damage theory are discretionary with the court, such as, the choice of an accounting method for determining profit margin,¹² or the methodology for arriving at a reasonable royalty . . . Such decisions are, of course, reviewed under the abuse of discretion standard.”¹³ The award of

⁷ 56 F.3d 1538, 35 U.S.P.Q.2d 1065 (Fed. Cir. 1995) (en banc).

⁸ 35 U.S.C. § 284.

⁹ The provisional rights addenda will take effect one year after the November 29, 1999 enactment date and shall apply to all applications filed under 35 U.S.C. § 111 on or after that date and all applications complying with 35 U.S.C. § 371 that resulted from international applications filed on or after that date. *Patent Trademark & Copyright Laws* 120 (Jeffrey M. Samuels *et al.* eds., BNA Books 2000).

¹⁰ 35 U.S.C. § 284.

¹¹ *SmithKline Diagnostics, Inc. v. Helena Laboratories Corp.*, 926 F.2d 1161, 1164, 17 U.S.P.Q.2d 1922, 1925 (Fed. Cir. 1991) (quoting *U.S. v. U.S. Gypsum Co.*, 333 U.S. 364, 395, 76 U.S.P.Q. 430, 443 (1948)).

¹² *Hartness Intl., Inc. v. Simplimatic Engr. Co.*, 819 F.2d 1100, 1112, 2 U.S.P.Q.2d 1826, 1835 (Fed. Cir. 1987).

¹³ *SmithKline*, 926 F.2d at 1164, 17 U.S.P.Q.2d at 1925

treble damages and attorney's fees are committed to the discretion of the district court judge.¹⁴

II. OVERVIEW OF REASONABLE ROYALTY DETERMINATIONS AND SURVEY OF CASE LAW SINCE 1995

As set forth by 35 U.S.C. § 284, a reasonable royalty establishes a minimum below which damages for patent infringement should not fall.¹⁵ Despite the fact that many courts do not consider all of the factors enumerated in *Georgia-Pacific Corp. v. U.S. Plywood-Champion Papers Inc.*,¹⁶ this case remains prominent in the judicial assessment of a reasonable royalty. *Georgia-Pacific* outlines fifteen traditional and comprehensive factors for determining a reasonable royalty.

Factors pertinent to determination of amount of reasonable royalty include:

- (1) the royalties received by patentee for licensing of the patent;
- (2) the rates paid by licensee for the use of comparable patents;
- (3) the nature and scope of the license;
- (4) the licensor's established policy to maintain its patent monopoly by not licensing to others or by granting licenses under conditions designed to preserve its monopoly;
- (5) the commercial relationship between the licensor and licensee;
- (6) the effect of selling the patented specialty in promoting the sale of other products;
- (7) the duration of the patent and terms of the license;
- (8) the established profitability of the patented product;
- (9) the advantages of the patented product over old devices;
- (10) the nature of the patented invention;

¹⁴ *Id.* at 1164 n. 2, 17 U.S.P.Q.2d at 1928 n. 2.

¹⁵ *Del Mar Avionics, Inc. v. Quinton Instrument Co.*, 836 F.2d 1320, 1326, 5 U.S.P.Q. 2d 1255, 1260 (Fed. Cir. 1987).

¹⁶ 318 F. Supp. 1116, 166 U.S.P.Q. 235 (S.D.N.Y. 1970), *modified and aff'd*, 446 F.2d 295, 170 U.S.P.Q. 369 (2d Cir. 1971).

- (11) the extent to which an infringer has used the invention;
- (12) the portion of profit or selling price customary for use of the invention or analogous inventions;
- (13) the portion of realizable profit that should be credited to the invention as distinguished from other factors;
- (14) the opinion testimony of qualified experts; and
- (15) the amount that a prudent licensee, desiring to obtain license, would have been willing to pay, and whereby the amount would have been acceptable by a prudent patentee who was willing to grant the license; moreover, it is necessary to consider, in determining the amount of a reasonable royalty, the fact that licensee would be willing hypothetically to pay a royalty which would produce a reasonable profit for the licensee.¹⁷

As many courts recognize, the consideration of all fifteen factors is not appropriate in all circumstances. One commentator has described the factors as falling into two categories.

These [*Georgia-Pacific*] factors generally fall into two groups. One group relates to the specific and general market conditions in the pertinent industry. These include (i) prior and existing licenses under the patent, (ii) industry custom and licenses on comparable patents, and (iii) the patent owner's licensing policy and the relation between the parties. The other group of factors relates to the anticipated profitability of the product or process made, used, or sold by the infringer and covered by the patent. These include (iv) infringer's anticipated profits, (v) comparative utility and noninfringing alternatives, (vi) collateral benefits and conveyed sales, (vii) improvements, small parts and apportionment, (viii) state of development and commercial success, and (ix) duration of the patent. The second group of factors in a sense sets the range of feasible rates since a willing patent owner would demand a greater than minimum rate for a profitable invention and a willing user would concede no more than the expected amount of profit (adjusted for the uncertainty as to its realization). The first group of factors points to the rate that the parties would have adopted within that range.¹⁸

A survey of district and Federal Circuit cases since 1995 shows the decreasing significance of *Georgia-Pacific* factors one and two, the royalties paid for licenses of the patent-in-suit, and the rates paid for licenses of comparable patents. In most cases, the circumstances surrounding the

¹⁷ *Georgia-Pacific*, 318 F. Supp. at 1120, 166 U.S.P.Q. at 238.

¹⁸ *Promega Corp. v. Lifecodes Corp.*, 53 U.S.P.Q.2d 1463, 1472 (D. Utah 1999) (citing Donald S. Chisum, *Chisum on Patents*, § 20.03[2][a], 170-171 (Mathew Bender & Co., Inc. 1999)).

licensing negotiations differ significantly from the hypothetical negotiation between the infringer and the patent holder, and as a result, the prior existing licenses carry little or no weight in the determination of the reasonable royalty. For instance, licenses negotiated as part of a settlement with third parties are given little weight because they tend to reduce the amount of the reasonable royalty.¹⁹ Similarly, licenses granted to third party competitors in varying market positions relative to the infringer also have been discounted as unduly depressing the reasonable royalty.²⁰ The second factor regarding the rates paid for comparable patents is generally unsettled due to the unique character of each patent.²¹ Therefore, proof of pre-existing licenses for the patent-in-suit or comparable patents is commonly vulnerable to attack based on the unique circumstances of the dispute.

The timing of negotiations for third party licenses has also caused courts to discount the evidentiary value of existing licenses. The relevant time period for a hypothetical negotiation under *Georgia-Pacific* is the time when infringement began.²² Several courts discounted the evidentiary value of licensing agreements that were negotiated too early,²³ or conversely, rejected analyses that took into account factors that came to light well after the infringement date.²⁴ “A reasonable royalty must relate to the time infringement occurred, and not be an after-the-fact assessment²⁵ . . . [I]n determining a reasonable royalty based on a hypothetical negotiation, a trier of fact may nevertheless ‘look at events and facts that occurred thereafter and

¹⁹ *Mickowski v. Visi-Trak Corp.*, 36 F. Supp. 2d 171, 181 (S.D.N.Y. 1999); *Donnelly Corp. v. Gentex Corp.*, 918 F. Supp. 1126, 1134 (W.D. Mich. 1996), *rev'd on other grounds*, 168 F.3d 1322 (Fed. Cir. 1998); *Total Containment, Inc. v. Environ Prods., Inc.*, 921 F. Supp. 1355, 1403-04 (E.D. Pa. 1995); *Wisconsin Alumni Research Found. v. General Elec. Co.*, 880 F. Supp. 1266, 1277 (E.D. Wis. 1995).

²⁰ *Aptargroup, Inc. v. Summit Packaging Sys., Inc.*, 178 F.3d 1306 (table), 1998 WL 791707 (Fed. Cir. 1998) (indicating that prior lower license rates would not be applicable to infringer which posed more of a market threat). The Court's decision is referenced in a “Table of Decisions Without Reported Opinions” appearing in the Federal Reporter.

²¹ *Procter & Gamble Co. v. Paragon Trade Brands, Inc.*, 989 F. Supp. 547, 607-609 (D. Del. 1997) (citing Donald S. Chisum, *Chisum on Patents*, § 20.03[3][b][ii], 182-184 (Mathew Bender & Co., Inc. 1999)).

²² *Fromson v. Western Litho Plate & Supply Co.*, 853 F.2d 1568, 1575-76 n. 12, 7 U.S.P.Q.2d 1606, 1613-14 n. 12 (Fed. Cir. 1988), *aff'd*, 909 F.2d 1495 (Fed. Cir. 1990).

²³ *See Promega*, 53 U.S.P.Q.2d at 1473.

²⁴ *Odetics, Inc. v. Storage Tech. Corp.*, 185 F.3d 1259, 1276-77, 51 U.S.P.Q.2d 1225, 1236-37 (Fed. Cir. 1999); *Aptargroup*, 1998 WL 791707 at *9; *Unisplay, S.A. v. American Elec. Sign Co.*, 69 F.3d 512, 518, 36 U.S.P.Q.2d 1540, 1545 (Fed. Cir. 1995).

²⁵ *Accuscan, Inc. v. Xerox Corp.*, 1998 WL 603217 at *7 (S.D.N.Y. Sep. 11, 1998) (quoting *Unisplay, S.A.*, 69 F.3d at 518, 36 U.S.P.Q.2d at 1545).

that could not have been known to or predicted by the hypothesized negotiators”²⁶ “As the Federal Circuit has explained, future events may be considered because where years have gone by after the issuance of the patent, ‘experience is then available to correct uncertain prophecy.’” However, “to correct uncertain prophecies in such circumstances is not to charge the offender with elements of value non-existent at the time of his offense . . . It is to bring out and expose to light the elements of value that were there from the beginning.”²⁷ While the date of the first infringement typically sets the time frame for the hypothetical license negotiation, this date may be adjusted to the date when the patent holder is forced to drop its competitive pricing scheme due to infringement.²⁸

Despite the reduced weight that recent cases appear to give to pre-existing licenses and offers to license, some courts still maintain that the terms of such pre-existing licenses are dominant factors to be considered in setting a reasonable royalty.²⁹

Recent cases where infringement has been found, and where damages are awarded, also appear to give more weight to the *Georgia-Pacific* factors that tend to increase the royalty rate for the patent holder. An increase in the patentee’s royalty rate may be the result of (1) the courts’ frustrations in sorting and weighing through the multitude of *Georgia-Pacific* factors and (2) the principle that any uncertainty in the damages calculation should be construed against the infringer.

With regard to the first matter, it has been acknowledged that when a court engages in a reasonable royalty determination, some of the *Georgia-Pacific* factors may be of minimal or no relevance to a particular case.³⁰ More than one court has indicated its frustration with the *Georgia-Pacific* test. “It would be an affectation of research to cite the countless cases which simply reiterate the “Georgia-Pacific” factors to be considered in determining a reasonable royalty. [citation omitted] To set out those fifteen factors would also needlessly burden this decision.”³¹ Relatively few recent cases parse

²⁶ *Id.* (quoting *Fromson*, 853 F.2d at 1575, 7 U.S.P.Q.2d at 1613).

²⁷ *Id.* (quoting *Fromson*, 853 F.2d at 1575, 7 U.S.P.Q.2d at 1613). See *Maxwell v. J. Baker, Inc.*, 86 F.3d 1098, 1109, 39 U.S.P.Q.2d 1001, 1007-08 (Fed. Cir. 1996).

²⁸ *Brunswick Corp. v. U.S.*, 46 U.S.P.Q.2d 1446, 1453 (Fed. Cir. 1998).

²⁹ *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 1998 WL 397844 at *33 (N.D. Ill. Jul. 13, 1998), *rev’d on other grounds*, 192 F.3d 973, 52 U.S.P.Q.2d 1109 (Fed. Cir. 1999); *Procter & Gamble*, 989 F. Supp. at 607; *Pentech Intl., Inc. v. Hayduchok*, 931 F. Supp. 1167, 1174 (S.D.N.Y. 1996) (indicating that value of patent was adequately reflected in the negotiated license between the patentee and a joint venture partner).

³⁰ See *Procter & Gamble*, 989 F. Supp. at 607.

³¹ *Gasser Chair Co., Inc. v. Infanti Chair Mfg. Corp.*, 943 F. Supp. 201, 216, 40 U.S.P.Q.2d 1554, 1566 (E.D.N.Y. 1996), *aff’d*, 155 F.3d 565, 47 U.S.P.Q.2d 1208 (Fed.

through each of the fifteen factors in assessing a reasonable royalty.³² In most instances, the court determines that a substantial number of the factors are neutral in assessing a reasonable royalty. One of the factors that has been neutralized is factor seven, the length of the patent term. In an era of rapidly developing technologies, the remaining duration of a patent is no longer deemed significant in determining the royalty.³³ Conventionally, it was thought that a higher royalty could be extracted from a patent that could be enforced for a longer period.³⁴ However, this has not proven to be the case as new technologies have supplanted patented technology, not only in leading technologies of electronics, but also in routine consumer products such as disposable diapers.³⁵

Of the remaining factors, two weigh prominently in the calculation of a reasonable royalty determination. These factors include *Georgia-Pacific* factors four the patentee's general policy against licensing and five the competitive factor between the patentee and infringer. In the *Ajinomoto Co. v. Archer-Daniels-Midland Co.*,³⁶ the district court took particular note of the fact that the patentee, Ajinomoto, had a general policy of not licensing to its competitors, and therefore, would be reluctant to license the patent to Archer-Daniels-Midland ("ADM"), which was a strong competitor and had a reputation for price cutting in order to obtain enhanced market share.³⁷ With further regard to the fourth factor, courts will turn to the language of any document purported to be an offer for a license in determining whether the offer is truly an offer to license the patent or merely an offer for sale of the patented product.³⁸

Cir. 1998); *Promega*, 53 U.S.P.Q.2d at 1472 (determining what constitutes a reasonable royalty is "a difficult judicial chore, seeming often to involve more the talents of a conjurer than those of a judge").

³² *But see Bose Corp. v. JBL, Inc.*, 112 F. Supp. 2d 138, 165-167 (D.Mass. 2000); *Pentech Intl.*, 931 F. Supp. at 1174-77; *Procter & Gamble*, 989 F. Supp. at 607-615.

³³ *See Procter & Gamble*, 989 F. Supp. at 610.

³⁴ *See id.*

³⁵ *See id.*; *but see Bose*, 112 F. Supp. 2d at 166; *Pentech Intl.*, 931 F. Supp. at 1175 (indicating that a lengthy remaining patent term favors a higher royalty).

³⁶ 1998 U.S. Dist. LEXIS 3833 at *158 (D. Del. Mar. 13, 1998).

³⁷ *Ajinomoto*, 1998 U.S. Dist. LEXIS 3833 at *158; *Bose*, 112 F. Supp. 2d at 165; *C.R. Bard, Inc. v. Boston Sci. Corp.*, 2000 WL 915241 at *4 (Fed. Cir. Jul. 7, 2000); *Mickowski*, 36 F. Supp. 2d at 181; *CFMT, Inc. v. Steag Microtech, Inc.*, 14 F. Supp. 2d 572, 600 (D. Del. 1998); *Procter & Gamble*, 989 F. Supp. at 610; *Total Containment*, 921 F. Supp. at 1403; *GNB Battery Tech., Inc. v. Exide Corp.*, 886 F. Supp. 420, 439 (D. Del. 1995); *Promega*, 53 U.S.P.Q.2d at 1473.

³⁸ *Gargoyles, Inc. v. U.S.*, 113 F.3d 1572, 1580, 42 U.S.P.Q.2d 1760, 1767-68 (Fed. Cir. 1997).

Georgia-Pacific factor six, the effect of selling the patented specialty in promoting the sale of other products (known as “convoyed sales”), also tends to increase a hypothetically negotiated royalty rate when the factor is considered.³⁹

Under [the *Georgia-Pacific*] theory, the plaintiff may recover from the defendant profits the defendant obtained from sales convoyed on the sale of the infringing product - even though those collateral sales would not necessarily have otherwise gone to the plaintiff (*See Georgia-Pacific*, 318 F. Supp. at 1127, 166 U.S.P.Q. at 244). This is because hypothetical negotiators would take into account convoyed profits that the purchaser may reap from the sale of the patented product, whether or not those collateral profits would have gone to the seller.

.....

By licensing another to sell patented [products, the patent holder] would be trading-in its monopoly on that corner of the . . . market, thereby trading an advantage in the selling of [related non-patented products] in that . . . corner of the market. This Court’s finding has never been sufficient for recovery under the “entire market rule [sic]”, but it is sufficient to establish a basis for *discovery* under the approach outlined in *Georgia-Pacific Corp.*⁴⁰

As suggested above, the consideration of convoyed sales in determining a royalty rate is related to, but distinct from, the consideration of the appropriate royalty base under the “entire market rule.” *Rite-Hite* did not change the distinction between these two concepts, though the concepts appear to have been blurred.⁴¹

“The ‘entire market rule’ allows for the recovery of damages based on the value of an entire apparatus containing several features, even though only one feature is patented.”⁴² This rule is permitted when the patented feature is the basis for customer demands for the entire machine.⁴³ To effectively take advantage of this rule, the patentee may promote the patented feature in its marketing materials for a system including several unpatented components.⁴⁴ Entitlement for recovery of damages under this

³⁹ *Endress & Hauser, Inc. v. Hawk Measurement Sys. Pty. Ltd.*, 892 F. Supp. 1123, 1131 (S.D. Ind. 1995), *aff’d*, 122 F.3d 1040, 43 U.S.P.Q.2d 1849 (Fed. Cir. 1997); *Wisconsin Alumni*, 880 F. Supp. at 1276; *Rite-Hite*, 56 F.3d at 1554, 35 U.S.P.Q.2d at 1077.

⁴⁰ *Haworth, Inc. v. Herman Miller, Inc.*, 162 F.R.D. 286, 287-288 (W.D. Mich. 1995).

⁴¹ *See Rite-Hite*, 56 F.3d at 1549, 35 U.S.P.Q.2d at 1072-73.

⁴² *Paper Converting Mach. Co. v. Magna-Graphics Corp.*, 745 F.2d 11, 23, 223 U.S.P.Q. 591, 599 (Fed. Cir. 1984), *aff’d*, 785 F.2d 1013, 228 U.S.P.Q. 938 (Fed. Cir. 1986).

⁴³ *Rite-Hite*, 56 F.3d at 1549, 35 U.S.P.Q.2d at 1072-73.

⁴⁴ *Fonar Corp. v. General Elec. Corp.*, 107 F.3d 1543, 1552, 41 U.S.P.Q.2d 1801, 1808 (Fed. Cir. 1997).

rule may also be demonstrated by consistent sale of the patented and unpatented assemblies in a complete system.⁴⁵ The “entire market rule” will also permit a patentee to recover for an entire apparatus when the infringer’s marketing material also emphasizes the patented feature.⁴⁶

Georgia-Pacific factor twelve, the portion of the profit of the selling price that may be customary in a particular business, or the infringer’s profit margin, also has received consistent attention in recent reasonable royalty determinations. Many district courts increase the royalty rate by factoring in the infringer’s profit margin.⁴⁷ In conjunction with factor twelve, a court may consider what is known as the “Rule of Thumb.”⁴⁸ Under this “rule,” the royalty rate is calculated as 25% to 33.33% of the operating profit margin before taxes.⁴⁹ As an alternative approach, one court used the 25%/75% rule of thumb to establish a baseline royalty rate, which was adjusted upward by other pertinent *Georgia Pacific* factors.⁵⁰ The 25%/75% rule of thumb “allocates 25% of profits on a product incorporating the patent to the patentee and 75% of the profits to the licensee.”⁵¹ While this rule has not been adopted as a matter of law,⁵² it has been applied by courts in determining whether the reasonable royalty rate is indeed reasonable.⁵³

It is not surprising that the treatment of the above factors generally tend to raise the reasonable royalty rate, especially in view of the long-standing principle that any doubts in assessing damages will be construed against the infringer.⁵⁴ At least three Federal Circuit cases have demonstrated concern in ensuring that a patentee is not under compensated for infringe-

⁴⁵ See *Tec Air, Inc. v. Denso Mfg. Mich., Inc.*, 192 F.3d 1353, 1362, 52 U.S.P.Q.2d 1294, 1300 (Fed. Cir. 1999).

⁴⁶ *Stryker Corp. v. Intermedics Orthopedics, Inc.*, 96 F.3d 1409, 1417, 40 U.S.P.Q.2d 1065, 1071 (Fed. Cir. 1996); *Fonar*, 107 F.3d at 1552-53, 41 U.S.P.Q.2d at 1808.

⁴⁷ *Promega*, 53 U.S.P.Q.2d at 1474; *Northlake Mktg. & Supply, Inc. v. Glaverbel*, 72 F. Supp.2d 893, 912 (N.D. Ill. 1999); but cf. *Procter & Gamble*, 989 F. Supp. at 611 (noting that the profitability of diapers containing the patented feature negatively influenced the royalty rate determination).

⁴⁸ *Id.* at 612.

⁴⁹ *Id.*

⁵⁰ *Bose*, 112 F. Supp. 2d at 167.

⁵¹ *Id.*

⁵² *Mobil Oil Corp. v. Amoco Chems. Corp.*, 915 F. Supp. 1333, 1366 (D. Del. 1995).

⁵³ *Procter & Gamble*, 989 F. Supp. at 614; *Fonar*, 107 F.3d at 1553, 41 U.S.P.Q.2d at 1808.

⁵⁴ *Lam, Inc. v. Johns-Manville Corp.*, 718 F.2d 1056, 1065, 291 U.S.P.Q. 670, 675 (Fed. Cir. 1983).

ment. In *Rite-Hite Corp. v. Kelley Co., Inc.*,⁵⁵ which will be discussed in greater detail *infra*, the Federal Circuit made certain that damages would be sufficient to compensate the patent holder.⁵⁶ In *Maxwell v. J. Baker, Inc.*,⁵⁷ the Federal Circuit endorsed the use of jury instructions that separately set forth an inquiry on the amount of a reasonable royalty, followed by an additional inquiry on the amount of damages that would be sufficient to compensate the plaintiff.⁵⁸ Finally, in *King Instruments Corp. v. Perego*,⁵⁹ discussed *infra*, the Federal Circuit again justified an award of damages to the patentee that went beyond a reasonable royalty determination to compensate the patent holder.⁶⁰

Even though courts do not typically consider each one of the traditional fifteen factors, the *Georgia-Pacific* test remains the standard by which a reasonable royalty is gauged. However, a court is free to take into account other considerations. For instance, *Century Wrecker Corp. v. E.R. Buske Manufacturing Co.*⁶¹ is one case that appears to contradict the trend in favor of higher reasonable royalty rates.⁶² In *Century Wrecker*, the district court permitted the defendant to introduce financial records showing its inability to pay a high royalty rate, even though the court cautioned that such evidence would be afforded very little weight.⁶³ Nonetheless, because the primary purpose of patent damages is to compensate the patent holder, and not to punish the infringer,⁶⁴ it is surprising that the district court in *Century Wrecker* would permit such evidence as part of the reasonable royalty determination. Similarly, in *H.M. Stickle v. Heublein, Inc.*,⁶⁵ the infringer attempted to introduce evidence concerning its losses in order to lower the reasonable royalty rate assessed in the case.⁶⁶ The court declined to admit this evidence,⁶⁷ which would tend to result in a lowering of the royalty rate.

⁵⁵ 56 F.3d 1538, 35 U.S.P.Q.2d 1065 (Fed. Cir. 1995).

⁵⁶ *Id.* at 1555, 35 U.S.P.Q.2d at 1071.

⁵⁷ 86 F.3d 1098, 39 U.S.P.Q.2d 1001 (Fed. Cir. 1996).

⁵⁸ *Id.* at 1109, 39 U.S.P.Q.2d at 1008.

⁵⁹ 65 F.3d 941, 36 U.S.P.Q.2d 1129 (Fed. Cir. 1995).

⁶⁰ *Id.* at 953, 36 U.S.P.Q.2d at 1137.

⁶¹ 898 F. Supp. 1334 (N.D. Iowa 1995).

⁶² *See id.* at 1338.

⁶³ *See id.*

⁶⁴ *H.M. Stickle v. Heublein, Inc.*, 716 F.2d 1550, 1560, 219 U.S.P.Q. 377, 384 (Fed. Cir. 1983).

⁶⁵ *Id.* at 1550, 219 U.S.P.Q. 377.

⁶⁶ *Id.* at 1560-61, 219 U.S.P.Q. at 385.

⁶⁷ *See id.* at 1561, 219 U.S.P.Q. at 385.

“While an infringer’s profits may be considered as evidence of what the infringer would have agreed to in a hypothetical negotiation, the infringer is not entitled to use his alleged losses to place a ceiling on the damages award.”⁶⁸

Despite these departures, litigants would be well-advised to present evidence corresponding with the *Georgia-Pacific* factors to ensure proper consideration. Patentees obviously receive benefit by conformance with the traditional factors, especially factors four, five, six and twelve as enumerated and discussed above, which favor an increased royalty rate. Patent defendants, on the other hand, may be tempted to introduce less traditional factors, such as *Century Wrecker* and *H.M. Stickle*. However, failing to provide any evidence conformation with the *Georgia Pacific* factors would be an error. For instance, in *Accuscan, Inc. v. XEROX Corp.*,⁶⁹ the district court rejected the defendant’s assessment of a reasonable royalty as a whole when it departed from the *Georgia-Pacific* test in its entirety.⁷⁰

Also, despite the apparent trend toward more favorable royalty considerations for the patentee, a court will not award reasonable royalties based on projected future sales. Aside from the fact that a court would likely impose an injunction against future infringement,⁷¹ damages based on projected future sales is a speculative exercise.⁷² In *Unisplay, S.A. v. American Electronic Sign Co.*,⁷³ the patentee argued that the infringer’s inferior product had “poisoned the market” for the patented product.⁷⁴ Accordingly, the patentee asserted that its damages should not be limited to the infringer’s actual sales, but additionally should be expanded to its projected sales.⁷⁵ Both the district court and the Federal Circuit denounced damages based on this theory.⁷⁶ Although projected future sales themselves

⁶⁸ *Endress & Hauser*, 892 F. Supp. at 1131 (citing *H.M. Stickle*, 716 F.2d at 1560, 219 U.S.P.Q. at 384); see also *W.R. Grace & Co. v. Intercat, Inc.*, 60 F. Supp. 2d 316, 321, 52 U.S.P.Q.2d 1331, 1334 (D. Del. 1999).

⁶⁹ 1998 WL 603217 (S.D.N.Y. Sep. 11, 1998).

⁷⁰ See *id.* at *7.

⁷¹ See *Giese v. Pierce Chem. Co.*, 43 F. Supp. 2d 98, 109, 50 U.S.P.Q.2d 1810, 1818 (D. Mass. 1999) (indicating that the court “will be obligated to enjoin the [d]efendants’ from making, using or selling the products adjudicated to infringe”) (quoting defendant’s memorandum)).

⁷² *Unisplay S.A.*, 69 F.3d at 518, 36 U.S.P.Q.2d at 1545.

⁷³ 69 F.3d 512, 36 U.S.P.Q.2d 1540 (Fed. Cir. 1995).

⁷⁴ *Id.* at 515, 36 U.S.P.Q.2d at 1542.

⁷⁵ *Id.*, 36 U.S.P.Q.2d at 1542.

⁷⁶ *Id.* at 518, 36 U.S.P.Q.2d at 1545; cf. *Minco, Inc. v. Combustion Engr., Inc.*, 95 F.3d 1109, 1119-20, 40 U.S.P.Q.2d 1001, 1008-09 (Fed. Cir. 1996) (indicating that reasonable

will not be considered as part of the royalty base for the damage calculation, such evidence is relevant for the determination of the reasonable royalty rate.⁷⁷

Courts will not award royalties for activity after a patent expires, even if this activity escalates considerably after expiration.⁷⁸ In order for a court to consider post-expiration events, the patent holder must show that the royalty rate that would emerge from the hypothetical negotiation “would have been higher as a result of . . . limited but lucrative pre-expiration infringement.”⁷⁹

III. OVERVIEW OF LOST PROFITS DAMAGES AND SURVEY OF CASES SINCE 1995

Lost profits comprise another traditional route that courts use to determine damages to be awarded to an aggrieved patent holder. It is often viewed as the preferred measure of damages because it exceeds the amount that would be awarded under a reasonable royalty determination.⁸⁰ A claimant seeking damages must at least establish the existence of lost profits through an expectation of exclusivity by proving, for example, the four elements from *Panduit Corp. v. Stahl Bros. Fibre Works, Inc.*⁸¹ These elements include: “(1) demand for the patented product, (2) the absence of noninfringing [alternatives], (3) the manufacturing and marketing capacity to exploit the demand, and (4) the amount of the profit the claimant would have made.”⁸² Once the patentee meets the burden of proving these factors, the burden shifts to the infringer to demonstrate that some or all of the lost profits claimed are not reasonable.⁸³ The Federal Circuit has adopted this

royalty determination may take into account whether the infringer manufactured inferior product).

⁷⁷ *Giese*, 43 F. Supp. 2d at 109, 50 U.S.P.Q.2d at 1818 (citing *Egry Register Co. v. Standard Register Co.*, 23 F.2d 438, 443 (6th Cir. 1928)); *Georgia-Pacific*, 318 F. Supp. at 1121, 166 U.S.P.Q. at 238-239.

⁷⁸ *Brunswick*, 46 U.S.P.Q.2d at 1452-53.

⁷⁹ *Id.* at 1452.

⁸⁰ See, e.g., *Stryker Corp. v. Intermedics Orthopedics, Inc.*, 891 F. Supp. 751, 832 (E.D.N.Y. 1995).

⁸¹ 575 F.2d 1152, 1156, 197 U.S.P.Q. 726, 729-730 (6th Cir. 1978).

⁸² *Rite-Hite*, 56 F.3d at 1545, 35 U.S.P.Q.2d at 1069.

⁸³ *Id.*, 35 U.S.P.Q.2d at 1069.

approach.⁸⁴ If the patent holder fails to meet the burden of proving any one of the *Panduit* factors, then the patent holder will not recover lost profits.⁸⁵

To establish an entitlement to lost profits, the patentee need not negate every possibility that a purchaser might not have purchased a product other than its own. Rather, the patent owner must show only a “reasonable probability” that “but for” the infringement, it would have made the sales made by the infringer.⁸⁶ “Where . . . the patent owner and the infringer . . . [are] the only two suppliers of a product, causation [of lost profits] may be inferred.”⁸⁷ An additional benefit to the patentee is the automatic fulfillment of the second *Panduit* factor of no acceptable noninfringing substitutes when there are only two suppliers in the market.⁸⁸

Under the first *Panduit* factor, proof of a substantial number of sales of an infringing product compels a finding for the demand of the patented product.⁸⁹ Evidence of an infringer’s projected sales may also satisfy this first prong of the *Panduit* test.⁹⁰

Under second *Panduit* factor, the presence of non-infringing alternatives, a product lacking the advantages of the patented invention cannot be an acceptable alternative.⁹¹

Prior to the decision in *Grain Processing Corp. v. American Maize-Products Co.*,⁹² it was widely accepted that a device had to be available for purchase in order to qualify as an acceptable non-infringing substitute.⁹³

It is axiomatic, however, that if a device is not available for purchase, a defendant cannot argue that the device is an acceptable noninfringing alternative for the purposes of avoiding a lost profits award. A

⁸⁴ *State Indus. Inc. v. Mor-Flo Indus., Inc.*, 883 F.2d 1573, 1577, 12 U.S.P.Q.2d 1026, 1028 (Fed. Cir. 1989).

⁸⁵ *Id.*, 12 U.S.P.Q.2d at 1028.

⁸⁶ *Paper Converting*, 745 F.2d at 21, 223 U.S.P.Q. at 598; *Rite-Hite*, 56 F.3d at 1545, 35 U.S.P.Q.2d at 1069.

⁸⁷ *Read Corp. v. Freiday*, 38 U.S.P.Q.2d 1220, 1222 (Fed. Cir. 1995) (unpublished) (citing *Lam, Inc. v. Johns-Manville Corp.*, 718 F.2d 1056, 1065, 219 U.S.P.Q. 670, 675 (Fed. Cir. 1983)).

⁸⁸ *Read Corp.*, 38 U.S.P.Q.2d at 1222.

⁸⁹ *Elkay Mfg.*, 1998 WL 397844 at *35 (citing *Gyromat Corp v. Champion Spark Plug Co.*, 735 F.2d 549, 552, 222 U.S.P.Q. 4, 6 (Fed. Cir. 1984)).

⁹⁰ *Northlake*, 72 F. Supp. 2d 893, 910.

⁹¹ *TWM Mfg. Co. v. Dura Corp.*, 789 F.2d 895, 901, 229 U.S.P.Q. 525, 529 (Fed. Cir. 1986); *Kalman v. Berlyn*, 914 F.2d 1473, 1484, 16 U.S.P.Q.2d 1093, 1102 (Fed. Cir. 1990); *Aptargroup*, 1998 WL 791707 at *9-*10.

⁹² 185 F.3d 1341; 51 U.S.P.Q.2d 1556 (Fed. Cir. 1999).

⁹³ *Id.* at 1352, 51 U.S.P.Q.2d at 1563-64

lost profits award reflects the realities of sales actually lost, not the possibilities of a hypothetical market which the infringer might have created. Thus, whether or not the [defendant's discontinued product] was an acceptable noninfringing alternative is relevant only for the period of time that the [discontinued product] was being marketed by [the defendant].⁹⁴

If the patentee has already sued, or is in litigation with, a third party source for patent infringement, then the products sold by that third party source do not constitute acceptable non-infringing alternatives.⁹⁵ However, once the dispute between the patentee and the third party settles, those products from the third party source may be considered as noninfringing substitutes to discount a patent damages award.⁹⁶

As an alternative to satisfying the second prong of *Panduit*, the patentee may attempt to receive lost profit damages even with the presence of a noninfringing alternative if the patentee can prove its market share.⁹⁷ Significantly, even when an infringer's product is found to include a patented invention, the court may refuse to award lost profits if the infringer's product does not compete with the patentee's product in the same market.⁹⁸ For example, in *Bose*, the patent holder prevailed in its infringement case against forty-five JBL products.⁹⁹ Several of those JBL products had different price ranges than Bose's competing products. During trial, Bose's expert attempted to structure the market with a broad price range encompassing almost all of JBL's products in one market segment. The court refused to accept Bose's broad structure of the market in which Bose's own products competed. The court awarded lost profit damages only for those JBL products within a narrow price range and permitted reasonable royalty damages on other infringing products in JBL's line.¹⁰⁰

Testimony of the patent holder's employee that demonstrates sufficient capacity meets the third *Panduit* prong.¹⁰¹ To rebut an allegation of sufficient capacity, an infringer may demonstrate that coordination with

⁹⁴ *Zygo Corp. v. Wyko Corp.*, 79 F.3d 1563, 1571, 38 U.S.P.Q.2d 1281, 1287 (Fed. Cir. 1996) (remanded for further findings on whether the defendant's non-infringing product qualified as an acceptable non-infringing substitute).

⁹⁵ *Pall Corp. v. Micron Separations, Inc.*, 66 F.3d 1211, 1222, 36 U.S.P.Q.2d 1225, 1233 (Fed. Cir. 1995); *Elkay Mfg.*, 1998 WL 397844 at *35; *Fonar*, 107 F.3d at 1553, 41 U.S.P.Q.2d at 1104-05.

⁹⁶ *Pall Corp.*, 66 F.3d at 1222-23, 36 U.S.P.Q.2d at 1233-34.

⁹⁷ *BIC Leisure Prods., Inc. v. Windsurfing, Intl., Inc.*, 1 F.3d 1214, 1219, 27 U.S.P.Q.2d 1671, 1675 (Fed. Cir. 1993); *Procter & Gamble*, 989 F. Supp. at 601.

⁹⁸ *BIC*, 1 F.3d at 1219, 27 U.S.P.Q.2d at 1675.

⁹⁹ *Bose*, 112 F. Supp. 2d at 162-163.

¹⁰⁰ *Id.*

¹⁰¹ *Fonar*, 107 F.3d at 1553, 41 U.S.P.Q.2d 1801 at 1809.

outside suppliers was necessary; and that the patent holder had questionable finances such that it would not have been able to meet demand.¹⁰² The infringer may also cast doubt on the capacity of the patent holder to meet demand by demonstrating that the optimistic projections on earnings and other financial goals of the patent holder have not been met in the past.¹⁰³ If the patent holder has documented growth rate, however, then it is more likely to be able to meet this third *Panduit* factor.¹⁰⁴

Under the fourth *Panduit* factor, district courts typically apply an incremental cost approach to determine the amount of a patent-infringement plaintiff's lost profits.¹⁰⁵ This method comprises subtracting the cost per unit of product and the variable costs associated with the manufacture and sale of the unit from the price per unit of product.¹⁰⁶ In this methodology, fixed costs such as management salaries, property taxes, and insurance, are not considered to reduce the patentee's lost profits.¹⁰⁷ Rather, additional variable costs (e.g. warehousing, transportation, and labor for manufacturing or marketing) discount the amount of profit that would be realized by the patentee.¹⁰⁸

Though proof through actual financial data is the preferred approach to determining a lost profits figure, conclusions of lost profit damages based on projected data will also be acceptable.¹⁰⁹ In such circumstances, it is up to the infringer to demonstrate that an expert's projected data rather than actual data, is suspect and should be afforded little or no weight.¹¹⁰ The financial data need not be directed towards the sale of the infringing device or system itself but may correspond to a component related to the infringing device or system to serve as an index as to the amount of lost profits.¹¹¹ However, the relationship between the patented component and its related component that is purported to comprise an index of sales for the patented component cannot

¹⁰² *Gargoyles*, 113 F.3d at 1577, 42 U.S.P.Q.2d at 1765.

¹⁰³ *Id.* at 1578, 42 U.S.P.Q.2d at 1766.

¹⁰⁴ *Fonar*, 107 F.3d at 1553, 41 U.S.P.Q.2d at 1809.

¹⁰⁵ *W.R. Grace*, 60 F. Supp. at 324-325, 52 U.S.P.Q.2d at 1335-36.

¹⁰⁶ *Id.* at 325, 52 U.S.P.Q.2d at 1337; *Pentech*, 931 F. Supp. at 1173.

¹⁰⁷ *W.R. Grace*, 60 F. Supp. at 322, 52 U.S.P.Q.2d at 1336.

¹⁰⁸ *Pentech*, 931 F. Supp. at 1173.

¹⁰⁹ *Comark Commun., Inc. v. Harris Corp.*, 1997 WL 431000 at *12 (E.D. Pa. July 17, 1997).

¹¹⁰ *Id.*

¹¹¹ *Kaspar Wire Works, Inc. v. K-Jack Engr. Co.*, 70 F.3d 129 (table) 1995 WL 662674 at *3 (Fed. Cir. Nov. 9, 1995) (unpublished).

be too speculative.¹¹² Multiple regression analyses are acceptable for providing proof of lost profits.¹¹³

The entire market rule, discussed *supra*, is applicable to both a determination of lost profits and damages determined under the reasonable royalty analysis.¹¹⁴ The entire market value rule applies when a patent claims a system of inter-related components, but the patent holder does not sell the entire system but sells certain components that operate together as part of the patented system.¹¹⁵ In the *Carborundum Co. v. Molten Metal Equip. Innovations, Inc.* case, the patent was directed to a system for injecting gas into a molten metal, including a pump, a furnace and a gas injection device.¹¹⁶

Rather than selling the system as a whole, the patentee sold only the pump and the gas injection unit. The pump, which was especially designed for use in the system described in the patent in suit, required frequent replacement of parts due to its exposure to high temperatures for processing the molten metal. The district court awarded damages for lost sales of the pump and also for “convoyed sales” of replacement parts which were sold by the infringer, Molten Metal Equip. Innovation (“MMEI”).¹¹⁷ The court further determined that the patentee was entitled to damages on lost profits for future sales of replacement parts. The patentee decided to forego this aspect of the award in favor of an injunction prohibiting MMEI from selling the spare parts.¹¹⁸ The Federal Circuit affirmed, noting that “[a] patentee is generally entitled to determine how it wishes to commercialize its invention in order to optimize its economic benefit from the patent grant.”¹¹⁹

The above discussion pertains to awards of lost profits due to diverted sales. However, lost profits damages also include damages for price erosion, including past and future price erosion.¹²⁰ A patent owner may recover lost profits for price erosion by showing that the infringement caused

¹¹² *Johnson Elec. N. Am., Inc. v. Mabuchi Motor Am. Corp.*, 103 F. Supp. 2d 268, 286 (S.D.N.Y. 2000).

¹¹³ *Id.* at 283.

¹¹⁴ *Tekmax, Inc. v. Exide Corp.*, 215 F.3d 1339 (table), 1999 WL 435755 at *7 (Fed.Cir. Jan 27, 1999) (unpublished) (citing *Fonar*, 107 F.3d at 1552, 41 U.S.P.Q.2d at 1807).

¹¹⁵ *Carborundum Co. v. Molten Metal Equip. Innovations, Inc.*, 72 F.3d 872, 882, 37, U.S.P.Q.2d 1169, 1176 (Fed. Cir. 1995).

¹¹⁶ *Id.* at 876, 37 U.S.P.Q.2d at 1170.

¹¹⁷ *Id.* at 881, 37 U.S.P.Q.2d at 1175.

¹¹⁸ *Id.* at 881-882, 37 U.S.P.Q.2d at 1175.

¹¹⁹ *Id.* at 880, 37 U.S.P.Q.2d at 1174.

¹²⁰ *Fiskars, Inc. v. Hunt Mfg. Co.*, 221 F.3d 1318, 1325, 55 U.S.P.Q.2d 1569, 1574 (Fed. Cir. 2000).

the patent owner to charge lower prices than the market otherwise would have dictated.¹²¹ As with lost profits for diverted sales, the patent holder must show that it would have been able to charge higher prices but for the infringement.¹²² In this connection, extrinsic market forces that cause fluctuation in the price for the patentee's product will tend to undermine the patentee's claim for price erosion.¹²³ Such price fluctuations indicate that a patentee's price reductions are not attributable to infringement alone, thereby undermining "but for" causation. An infringer can undercut the patentee's price erosion damages through a showing that the market would not bear any price increase, or that the patent holder was a market leader in price-cutting.¹²⁴ The patentee must also prove the amount of its loss.¹²⁵ The patentee may recover for price erosion incurred on its own sales as well as sales made by the infringer.¹²⁶

IV. THE IMPACT OF THE FEDERAL CIRCUIT'S DECISIONS IN *RITE-HITE* AND *GRAIN PROCESSING*

As alluded to above, the cases of *Rite-Hite* and *Grain Processing* have had significant impact on the determination of damages in the context of when lost profits and other damages can be awarded, the requirements of the entire market value rule, and what comprises an acceptable non-infringing substitute. An assessment of *Rite-Hite* and *Grain Processing* and their impact for future damage calculations are discussed below.

A. Overview of the *Rite-Hite* Case

The patentee in *Rite-Hite* ("Rite-Hite") prevailed against Kelley for infringing its patent (U.S. Patent No. 4,373,847, hereinafter the '847 patent).¹²⁷ The patented technology related to a restraining device used to secure a vehicle to a loading dock in order to prevent separation of the vehicle from the dock as goods were loaded and unloaded from the vehicle.¹²⁸

¹²¹ *Amstar Corp. v. Envirotech Corp.*, 823 F.2d 1538, 1543, 3 U.S.P.Q.2d 1412, 1415 (Fed. Cir. 1987).

¹²² *Minco*, 95 F.3d at 1120, 40 U.S.P.Q.2d at 1009.

¹²³ *Id.*, 40 U.S.P.Q.2d at 1009

¹²⁴ *Id.*, 40 U.S.P.Q.2d at 1009.

¹²⁵ *Johns-Manville*, 718 F.2d at 1065, 219 U.S.P.Q. at 675.

¹²⁶ *TWM*, 789 F.2d at 902, 229 U.S.P.Q. at 529

¹²⁷ *Rite-Hite*, 56 F.3d at 1542, 35 U.S.P.Q.2d at 1066.

¹²⁸ *Id.*, 35 U.S.P.Q.2d at 1066.

Such separation could potentially cause injury to persons loading and unloading the vehicle.¹²⁹

In a bifurcated damages trial, the district court permitted Rite-Hite to recover damages based on lost profits for two types of restraints that it sold.¹³⁰

The first restraint was the “Manual Dok-Lok” model 55 (MDL-55), which incorporated the features of the ‘847 patent.¹³¹ The second Rite-Hite restraint, the “Automatic Dok-Lok” model 100 (ADL-100), was not covered by the patent-in-suit, although the ADL-100 was alleged to be covered by other patents in Rite-Hite’s portfolio.¹³² Rite-Hite did not allege that Kelley infringed the ‘847 patent through its manufacture and sale of the ADL-100.¹³³

Before the trial court, Rite-Hite demonstrated that the problem addressed by the ‘847 patent was a significant problem in terms of safety of workers who used heavy machinery to load and unload vehicles.¹³⁴ Rite-Hite further demonstrated that it undertook several years of development to introduce a commercial product that adequately secured a vehicle to a loading dock, was inexpensive, was simple to operate and unobtrusive and which was rugged enough to withstand the environment in which the apparatus was applied.¹³⁵ The first of the Rite-Hite products was the ADL-100.¹³⁶ Rite-Hite introduced the MDL-55 just over one year after the introduction of the ADL-100.¹³⁷ The MDL-55 was determined to have additional advantages over the ADL-100 because it could be manually operated, had a larger capture area than the prior device and a smaller clearance.¹³⁸ The district court determined that the commercial success of the MDL-55 and Kelley’s infringing “Truk Stop” restraint could be attributed to the features claimed in the ‘847 patent, and not to the question of whether manual or automatic operation of the restraints was preferred.¹³⁹ The list

¹²⁹ *Id.*, 35 U.S.P.Q.2d at 1066.

¹³⁰ *Id.* at 1543, 35 U.S.P.Q.2d at 1067.

¹³¹ *Id.*, 35 U.S.P.Q.2d at 1067.

¹³² *Id.*, 35 U.S.P.Q.2d at 1067.

¹³³ *Id.*, 35 U.S.P.Q.2d at 1067.

¹³⁴ *Rite-Hite Corp. v. Kelley Co.*, 774 F. Supp. 1514, 1519-20, 21 U.S.P.Q.2d 1801, 1803-04 (E.D. Wis. 1991).

¹³⁵ *Id.* at 1520, 21 U.S.P.Q.2d at 1804

¹³⁶ *Id.*, 21 U.S.P.Q.2d at 1804.

¹³⁷ *Id.*, 21 U.S.P.Q.2d at 1804.

¹³⁸ *Id.*, 21 U.S.P.Q.2d at 1804.

¹³⁹ *Id.*, 21 U.S.P.Q.2d at 1804.

price of the MDL-55 was approximately one third less than the price of the ADL-100 and Kelley's accused "Truk Stop" restraint device.¹⁴⁰

At trial, Rite-Hite presented evidence of its marketing strategy, which generally consisted of submitting bids for pending construction jobs.¹⁴¹ Rite-Hite's marketing strategy eventually developed into a long-term marketing effort, including meetings with high level safety, manufacturing, and traffic personnel of its customers.¹⁴² Rite-Hite alleged that the long-term marketing efforts made it particularly vulnerable to Kelley, which would often step in at the last moment and offer their competing Truk Stop restraint device at a lower-price.¹⁴³

The evidence submitted against Kelley indicated that the company began design of its Truk Stop in hopes of avoiding lost sales of a dock-leveler device.¹⁴⁴ This device could be used in conjunction with the vehicle restraint device that was the subject of the '847 patent. Kelley's engineers specifically examined the MDL-55 and developed engineering drawings based on Rite-Hite's second MDL-55 device.¹⁴⁵ Nonetheless, the district court found that Kelley priced its Truk Stop to compete with Rite-Hite's ADL-100, because Rite-Hite's ADL-100 and Kelley's "Truk Stop" were automatic devices and were comparably priced.¹⁴⁶

Of the 3825 infringing Truk Stop devices sold by Kelley, the district court determined that "but for" Kelley's infringement, Rite-Hite would have sold 80 more of its MDL-55 model and 3243 more of its ADL-100 model vehicle restraints.¹⁴⁷ The district court further found that Rite-Hite would have sold 1,692 more of its dock levelers, which are the bridging platforms used in conjunction with vehicle restraints to bridge the edges of a vehicle and a dock.¹⁴⁸ The district court also permitted Rite-Hite's business associates, independent sales organizations ("ISO's"), to intervene and obtain damages based on their lost sales.¹⁴⁹ The Federal Circuit however, determined that the ISOs lacked standing in the case, thus vacating their

¹⁴⁰ *Id.*, 21 U.S.P.Q.2d at 1804.

¹⁴¹ *Id.* at 1521, 21 U.S.P.Q.2d at 1804

¹⁴² *Id.*, 21 U.S.P.Q.2d at 1804.

¹⁴³ *Id.*, 21 U.S.P.Q.2d at 1804.

¹⁴⁴ *Id.*, 21 U.S.P.Q.2d at 1804

¹⁴⁵ *Id.* at 1522, 21 U.S.P.Q.2d at 1805

¹⁴⁶ *Id.* at 1522, 21 U.S.P.Q.2d at 1806

¹⁴⁷ *Rite-Hite*, 56 F.3d at 1543, 35 U.S.P.Q.2d at 1067.

¹⁴⁸ *Id.*, 35 U.S.P.Q.2d at 1067.

¹⁴⁹ *Id.* at 1542, 35 U.S.P.Q.2d at 1067.

award for damages.¹⁵⁰ The district court awarded Rite-Hite wholesale lost profits on the lost sales of each of the MDL-55, ADL-100 and dock leveler devices.¹⁵¹ The district court further awarded Rite-Hite, as a retailer, reasonable royalty damages for lost sales because lost profits damages could not be proven.¹⁵² On appeal, Kelley challenged the award of damages for the ADL-100 restraints because they were not covered by the patent in suit, the '847 patent.¹⁵³ Kelley challenged the award for damages on the unpatented dock levelers, and challenged the determination of the reasonable royalty.¹⁵⁴

The Federal Circuit set forth the standard of review for patent damage awards; on appeal, Kelley had to demonstrate that the determination was based on an erroneous conclusion of law, clearly erroneous factual findings, or a clear error of judgment amounting to an abuse of discretion.¹⁵⁵ The Federal Circuit stated that the level of proof presented by Rite-Hite determined its ability to recover actual lost profits for lost sales of both the MDL-55 and the ADL-100, even though the ADL-100 was not covered by the patent-in-suit.¹⁵⁶ Citing from Supreme Court precedent and the theory of "damages" generally, the Federal Circuit affirmed the award of lost profits based on Rite-Hite's ADL-100 sales, which did not include the patented invention.¹⁵⁷

Judicial limitations of damages, either for certain classes of plaintiffs or for certain types of injuries have been imposed in terms of "proximate cause" or "foreseeability." Such labels have been judicial tools used to limit legal responsibility for the consequences of one's conduct that are too remote to justify compensation. The general principles expressed in the common law tell us that the question of legal compensability is one "to be determined on the facts of each case upon mixed considerations of logic, common sense, justice, policy and precedent.

... We believe that under Section 284 of the patent statute, the balance between full compensation, which is the meaning that the Supreme Court has attributed to the statute, and the reasonable limits of liability encompassed by general principles of law can best be viewed in terms of reasonable, objective foreseeability. If a particular injury was or should have been reasonably foreseeable by an infringing competitor in the rele-

¹⁵⁰ *Id.* at 1543, 35 U.S.P.Q.2d at 1067.

¹⁵¹ *Id.*, 35 U.S.P.Q.2d at 1067.

¹⁵² *Id.*, 35 U.S.P.Q.2d at 1067.

¹⁵³ *Id.*, 35 U.S.P.Q.2d at 1067.

¹⁵⁴ *Id.*, 35 U.S.P.Q.2d at 1067.

¹⁵⁵ *Id.* at 1543-44, 35 U.S.P.Q.2d at 1067-68.

¹⁵⁶ *Id.* at 1544, 35 U.S.P.Q.2d at 1068.

¹⁵⁷ *Id.* at 1549, 35 U.S.P.Q.2d at 1072.

vant market, broadly defined, that injury is generally compensable absent a persuasive reason to the contrary.¹⁵⁸

Prior to the decision in *Rite-Hite*, it appeared that a patentee could not obtain an award of lost profits without selling the patented invention within the United States.¹⁵⁹ With its emphasis on the level of proof presented by the patentee, the Federal Circuit's decision breathed new life into a prior 1994 district court case, permitting a patentee to recover damages for lost profits even though the patentee did not practice his/her invention.¹⁶⁰ The relevant inquiry is whether damages were reasonably and objectively foreseeable.¹⁶¹

In a dissenting opinion, Judge Nies strongly opposed the majority's the holding that permitted recovery of lost profits for a device not covered by the patent-in-suit.¹⁶² The dissent characterized the decision of the majority as a departure from Supreme Court precedent that "discloses . . . the legal scope of actual damages for patent infringement was limited to the extent of the defendant's interference with the patentee's market in goods embodying the invention of the patent-in-suit."¹⁶³

Rite-Hite also imposed additional requirements for application of the entire market rule. All the components together must be analogous to components of a single assembly or be parts of a complete machine, or they must constitute a functional unit.¹⁶⁴ In *Rite-Hite*, the unpatented dock leveler worked in conjunction with a patented vehicle restraint system.¹⁶⁵ Although used together for loading and unloading merchandise from a truck, the two components did not function together to achieve one result and each could effectively have been used independently.¹⁶⁶ Thus, the Federal Circuit

¹⁵⁸ *Id.* at 1546, 35 U.S.P.Q.2d at 1069-70 (internal citations omitted).

¹⁵⁹ *See Trelle v. Marlee Elecs. Corp.*, 912 F.2d 1443, 1445, 16 U.S.P.Q.2d 1059, 1061 (Fed. Cir. 1991) (citing *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 895 F.2d 1403, 1406 n. 2, 13 U.S.P.Q.2d 1871, 1876 n. 2 (Fed. Cir. 1990)); compare with *Hebert v. Lisle Corp.*, 99 F.3d 1109, 1120, 40 U.S.P.Q.2d 1611, 1618 (Fed. Cir. 1996) (stating that when a patentee seeks lost profit damages prior to its commencement of manufacturing the patented product, its burden is commensurately heavy).

¹⁶⁰ *See Mobil Oil Corp. v. Amoco Chems. Corp.*, 915 F. Supp. 1333, 1352 (D. Del. 1994) (awarding the patentee "lost lease payments under its standard . . . lease agreement").

¹⁶¹ *Rite-Hite*, 56 F.3d at 1546, 35 U.S.P.Q.2d at 1070.

¹⁶² *Id.* at 1561, 35 U.S.P.Q.2d at 1082-83 (Nies, J. dissenting).

¹⁶³ *Id.*, 35 U.S.P.Q.2d at 1082-83 (Nies, J. dissenting).

¹⁶⁴ *Id.* at 1550, 35 U.S.P.Q.2d at 1073.

¹⁶⁵ *Id.* at 1550-51, 35 U.S.P.Q.2d at 1073.

¹⁶⁶ *Id.* at 1551, 35 U.S.P.Q.2d at 1073-74.

reversed the damages award for sales of the unpatented dock leveler.¹⁶⁷ While modifying the royalty base with respect to sales of the dock leveler, the Federal Circuit left the district court's determination of the reasonable royalty rate undisturbed.¹⁶⁸

B. Damages Based on Foreseeability since *Rite-Hite*

Since *Rite-Hite* was decided, it has been determined that the lost profits for derivative sales, including spare or replacement parts comprise a reasonably foreseeable lost profit of patent damages.¹⁶⁹ In *Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus. Inc.*, the patent-in-suit pertained to a method for cutting concrete, using a skid plate and a blade, both of which required frequent replacement.¹⁷⁰ The district court permitted recovery of damages for lost profits for both components used to perform the patented method.¹⁷¹ The lost sales of a product produced by a patented invention also fall within the boundaries of reasonably foreseeable loss.¹⁷² In *Minco, Inc. v. Combustion Eng., Inc.*, the patent-in-suit pertained to a rotary kiln for producing fused minerals.¹⁷³ The Federal Circuit affirmed an award of damages for lost profits for the patentee's lost sales of unpatented fused silica, a product produced by the patented invention.¹⁷⁴ The foreseeability rule has also been applied to permit a patentee to offer proof of lost profit due to lost sales on a maintenance contract which was sold in conjunction with a patented invention.¹⁷⁵

As discussed above, in connection with *Carborundum*,¹⁷⁶ lost profit recovery can be expanded to include lost sales due to unpatented components

¹⁶⁷ *Id.* at 1551, 35 U.S.P.Q.2d at 1074.

¹⁶⁸ *Id.* at 1555, 35 U.S.P.Q.2d at 1077.

¹⁶⁹ *Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus., Inc.*, 48 U.S.P.Q.2d 1421, 1426 (C.D. Cal. 1998).

¹⁷⁰ *Id.* at 1424.

¹⁷¹ *Id.* at 1428.

¹⁷² *Minco, Inc. v. Combustion Engr., Inc.*, 95 F.3d 1109, 1118, 40 U.S.P.Q.2d 1001, 1007 (Fed. Cir. 1996).

¹⁷³ *Id.* at 1113, 48 U.S.P.Q.2d at 1003.

¹⁷⁴ *Id.* at 1121, 48 U.S.P.Q.2d at 1010.

¹⁷⁵ *National Research Laboratories v. Eppert Oil Co.*, 104 F. Supp. 2d 851, 860-61 (S.D. Ohio 2000).

¹⁷⁶ See *supra* section III, nn. 117-121 and accompanying text (discussing the entire market value rule and its application in *Carbonundrum*).

under “the entire market rule.”¹⁷⁷ In this respect, the “foreseeability” rule for lost profit damages set forth in *Rite-Hite* expands the “entire market rule”¹⁷⁸ which does not apply when an unpatented component and spare parts (or other collateral product) are sold together with a patented component for purposes of convenience or business advantage.¹⁷⁹ Thus, it seems unlikely that damages for lost sales of the fused silica in *Minco* would be awarded under “the entire market rule” while such damages were awarded under the more expansive doctrine of “foreseeability.”

Rite-Hite has clearly expanded the scope of patent damages in regard to the foreseeability doctrine, while maintaining a boundary in other regards.

For example, remote consequences, such as a heart attack of the inventor or loss in value of shares of common stock of a patentee corporation caused *indirectly* by infringement are not compensable. Thus, along with establishing that a particular injury suffered by a patentee is a ‘but for’ consequence of infringement, there may also be a background question whether the asserted injury is of the type for which the patentee may be compensated.¹⁸⁰

It is not clear, however, that in the wake of *Rite-Hite*, whether courts will disallow actual damages such as a reduction in stock price or damages due to the patentee’s lost sale of a business if such damages can be adequately and directly attributed to the infringement. As discussed above in *Rite-Hite* the Federal Circuit permitted recovery of lost profits based on the patent holder’s strong evidence of the likelihood of the accused infringer’s sales of unpatented products.¹⁸¹

Though no court has permitted the scope of patent damages recovery to extend beyond the scope of products sold by the patentee, the general language of *Rite-Hite* appears to leave open the door for future patentees to attempt to recoup other economic losses by providing stronger evidence that such damages could be directly linked to an infringement. For instance, in the cases following *Rite-Hite*, at least two claimants have attempted to obtain an award for damages not based on lost sales or a reasonable royalty for a product. In *Minco*, the patentee, Minco, sought compensatory damages based on its own sale of its fused silica business to a third party, Imetal, due to defendant Combustion Engineering’s infringing activity with regard to an

¹⁷⁷ *Carbonundrum*, 72 F.3d at 882, 37 U.S.P.Q.2d at 1176; *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 37 U.S.P.Q.2d 1161, 1168 (Fed. Cir. 1995).

¹⁷⁸ *Carbonundrum*, 72 F.3d at 882, 37 U.S.P.Q.2d at 1176.

¹⁷⁹ *Id.*

¹⁸⁰ *Rite-Hite*, 56 F.3d at 1546, 35 U.S.P.Q.2d at 1069-70 (emphasis added).

¹⁸¹ *See supra* n. 159.

apparatus for processing fused silica.¹⁸² Imetal bought the infringer's fused silica business operations rather than the patentee's.¹⁸³ Minco alleged that it was entitled to the difference between an expert's evaluation of the sale price of Combustion Engineering with the infringing apparatus and the sale price without the infringing apparatus.¹⁸⁴ The district court denied this aspect of damages due to failure of proof, rather than on a broad-based rule that prohibited an award of damages of this nature.¹⁸⁵ The Federal Circuit affirmed the decision, noting:

While in theory Minco might have been entitled to some recovery from [Combustion Engineering's] sale of its business because it included the infringing [apparatus], the district court specifically determined that Minco did not show that the infringing kilns were an important factor in the sale. Indeed upon acquiring [Combustion Engineering's] business, Imetal switched to its own patented furnace This switch undermines Minco's claim that the [apparatus] drove the sale. The record contains no probative evidence of Imetal's business motivation or the industry context. For example, Imetal might have paid a large premium for entry into the market or for [Combustion Engineering's] trademark. Thus, Minco did not prove Imetal would have purchased it absent [Combustion Engineering's] infringement.¹⁸⁶

The above language focuses on a failure of proof, rather than on a lack of foreseeability of the type of damages sought by the patentee.

In another post *Rite-Hite* case, *King Instruments Corp. v. Perego*,¹⁸⁷ the Federal Circuit again permitted the patentee to recover damages for lost sales based on a non-patented component.¹⁸⁸ In *King*, unlike *Rite-Hite*, the patent holder did not produce any device covered by the patent-in-suit, though the patentee did manufacture and sell a device that competed with a product found to infringe the patent.¹⁸⁹ In this regard, *King* is completely consistent with the pre-*Rite-Hite* case of *Mobil Oil*. Interestingly, the Federal Circuit explained parenthetically the types of limits on damages that could be awarded under Title 35.

The types of harm for which infringement damages are recoverable are not, however, completely unlimited. Although broad, the term "damages" in the Patent Act has limits. Compensatory (or actual) "damages" are generally those which are the natural result of the harmful act in ques-

¹⁸² *Minco*, 95 F.3d at 1120, 40 U.S.P.Q.2d at 1009.

¹⁸³ *Id.*, 40 U.S.P.Q.2d at 1009.

¹⁸⁴ *Id.*, 40 U.S.P.Q.2d at 1009.

¹⁸⁵ *Id.* at 1121, 40 U.S.P.Q.2d at 1010.

¹⁸⁶ *Id.* at 1120-21, 40 U.S.P.Q.2d at 1009.

¹⁸⁷ 65 F.3d 941, 36 U.S.P.Q.2d 1129 (Fed. Cir. 1995).

¹⁸⁸ *King*, 65 F.3d at 947, 36 U.S.P.Q.2d at 1134.

¹⁸⁹ *Id.*, 36 U.S.P.Q.2d at 1132.

tion. For instance, if the patentee's mother died of a heart attack due to the shock of discovering an infringing product at the supermarket, the Act would not authorize damages for wrongful death or emotional distress. The unfortunate death would not be economic harm, nor the direct and foreseeable result of infringement. Economic harm, such as the profits lost on sales of competing products in this case, however, is a direct and foreseeable result of infringement.¹⁹⁰

It appears significant that the court did not expressly exclude the type of damages sought by Minco or the loss in stock value that the court mentioned by the *Rite-Hite* panel as falling outside the limits of Section 284.

Additionally, in *Rodime PLC v. Seagate Technology Inc.*,¹⁹¹ the patentee (Rodime) wished to prove certain so-called "consequential business damages."¹⁹² Specifically, Rodime alleged that the refusal of the infringer (Seagate) to take a license under the patent-in-suit deprived Rodime of an income stream sufficient to enable it to have survived and profited as a disk-drive manufacturer, forcing it to instead declare bankruptcy.¹⁹³ According to the report of Rodime's damages expert: "A reasonable estimate of this additional damage through June 1993 is in the range of \$58 to \$107 million, over and above the royalty revenues."¹⁹⁴ Though the infringer Seagate successfully moved to exclude this evidence because such damages are not relevant to the calculation of a reasonable royalty, the Federal Circuit noted that such information was more pertinent to a lost profits determination, a measure of damages that Rodime had previously foreclosed.¹⁹⁵ This seems to suggest that had Rodime not foregone its right to recover "lost profits" damages, the court would be free to consider such consequential business losses as a component of damages under Section 284.

While the above cases suggest that courts may be more liberal in the type of "foreseeable" damages that can be awarded to a patent holder, even after *Rite-Hite* and *King*, it remains true that a shareholder damaged by patent infringement via lost returns on investment will not be permitted to recover monetary damages for the infringement.¹⁹⁶ The court noted that the distribution of corporate profits to its shareholders is governed by its

¹⁹⁰ *King*, 65 F.3d at 948 n. 3, 36 U.S.P.Q.2d at 1134 n. 3 (citations omitted).

¹⁹¹ 174 F.3d 1294, 50 U.S.P.Q.2d 1429 (Fed. Cir. 1999).

¹⁹² *Id.* at 1307, 50 U.S.P.Q.2d at 1438.

¹⁹³ *Id.*, 50 U.S.P.Q.2d at 1438.

¹⁹⁴ *Id.*, 50 U.S.P.Q.2d at 1438.

¹⁹⁵ *Id.* at 1307-08, 50 U.S.P.Q.2d at 1438-39.

¹⁹⁶ *Ajinomoto Co. Inc. v. Archer-Daniels-Midland Co.*, 1996 WL 621835 at *3 (D. Del. Oct. 21, 1996).

officers.¹⁹⁷ This intervening factor prevents the loss of corporate distributions from being a reasonably foreseeable loss and thus is not recoverable.¹⁹⁸

C. Damages Based on the Entire Market Rule Since *Rite-Hite*

Though *Rite-Hite* appeared to impose additional requirements on when unpatented components could be included in the royalty base for patent damages purposes under the “entire market rule,” the cases that have addressed this matter since 1995 do not appear to depart from the analysis used in pre-*Rite-Hite* precedent. These traditional factors include (1) whether the patented component drives the demand for a system including patented and unpatented components;¹⁹⁹ and (2) whether the patented and unpatented components form part of the same machine.²⁰⁰

As noted above, *Rite-Hite* includes a requirement that the patented and unpatented components bear a functional relationship with each other. Since *Rite-Hite*, the courts have emphasized that the manner in which the patentee exploits the exclusive rights conferred by the patent are within the discretion of the patentee.²⁰¹ The functional interrelationship requirement of *Rite-Hite* would appear to encourage patentees to always market patented and unpatented products together and to make their components incompatible with other parts from other parties. However, one should remain cognizant that attempts to market a patented product and an unpatented product together may potentially raise anti-trust considerations, for instance as an illegal tying arrangement. For a patentee who seeks to maximize a damage recovery by demonstrating dominance in a particular market segment, the possibility of a patent defendant’s antitrust counterclaim based on such marketing activity becomes more significant.

As an alternative to “package marketing,” the patentee may market separate components of a patented system, as in *Carborundum*, and seek damages against secondary infringers under 35 U.S.C. § 271 (b) and (c). This approach, however, will require a patentee to risk more in an initial

¹⁹⁷ *Id.* at *4.

¹⁹⁸ *Id.*

¹⁹⁹ *Heidelberg Druckmaschinen AG v. Hantscho Com. Prod.*, 1995 WL 693170, *2 (S.D.N.Y. Nov. 22, 1995); *Tec Air, Inc. v. Denso Manuf. Mich., Inc.*, 192 F.3d 1353, 1362, 52 U.S.P.Q.2d 1294, 1299 (Fed. Cir. 1999) (citing *State Indus. Inc. v. Mor-Flo Indus., Inc.*, 883 F.2d 1573, 1580, 12 U.S.P.Q.2d 1026, 1031 (Fed. Cir. 1989)).

²⁰⁰ *Fonar Corp. v. General Elec. Co.*, 107 F.3d 1543, 1552, 41 U.S.P.Q.2d 1801, 1808 (Fed. Cir. 1997) (citing *Paper Converting Mach. Co. v. Magna-Graphics Corp.*, 245 F.2d 11, 22, 223 U.S.P.Q. 591, 599 (Fed. Cir. 1984)).

²⁰¹ *King*, 65 F.3d at 958, 36 U.S.P.Q.2d at 1133.

determination of “no infringement” may be found due to the additional defenses that may be used to rebut allegations of indirect infringement as compared with direct infringement under 35 U.S.C. § 271(a).

Notably, the majority decision in *Rite-Hite* made it clear that the application of the entire market value is a distinct consideration from the sixth factor set forth in *Georgia-Pacific* that permits consideration of convoyed sales in setting a royalty rate.²⁰² Whereas the entire market value rule establishes the royalty base, the concept of convoyed sales helps establish the royalty rate. Technically, establishing both convoyed sales and successfully invoking application of the entire market rule should collectively increase the overall damage payment to the patentee.²⁰³ Patent holders, however, may have to carefully consider whether to advance one concept in favor of the other in their damages presentations, because the two concepts are so closely related, and the entire market rule appears to have subsumed the sixth *Georgia-Pacific* factor.

In particular, the consideration of convoyed sales would tend to increase the royalty rate for a licensee. As explained above in *Hawthorn*, if a patentee anticipates that he will lose a sale of a patented product and a related unpatented product, e.g. a “convoyed sale”, then the patentee would negotiate a higher royalty rate in view of that double loss.²⁰⁴ However, proving that the patentee would have lost the “convoyed sale” will likely require proving a correlation between the patented and unpatented “convoyed” product that would essentially satisfy the entire market rule.²⁰⁵ If the patentee acts otherwise, the patentee runs the risk of not receiving the benefit of the convoyed sale consideration as part of the *Georgia-Pacific* analysis. Once proof of the entire market rule is satisfied, the base price would be increased to which a reasonable royalty rate is applied. At least one court has stated that an inverse relationship necessarily exists between the royalty base and the royalty rate.²⁰⁶ “It is axiomatic that the larger the potential compensation base to which a royalty rate will be applied, the lower will be the rate.”²⁰⁷ More recently, in a case which would implicate both an analysis

²⁰² *Rite-Hite*, 56 F.3d at 1549, 35 U.S.P.Q.2d at 1072.

²⁰³ *Id.*, 35 U.S.P.Q.2d at 1073.

²⁰⁴ *Hawthorn, Inc. v. Herman Miller, Inc.*, 162 F.R.D. 286, 287 (W.D. Mich. 1995).

²⁰⁵ *Id.*

²⁰⁶ *Id.*

²⁰⁷ *Hughes Aircraft, Inc. v. U.S.*, 86 F.3d 1566, 1570, 39 U.S.P.Q.2d 1065, 1069 (Fed. Cir. 1996).

of convoyed sales and the entire market rule, the court considered both in combination rather than as distinct concepts.²⁰⁸

The above relationship between the entire market rule and convoyed sales should guide patent holders in how to best present their evidence to maximize their presentation for damages based on a reasonable royalty.

V. OVERVIEW OF *GRAIN PROCESSING*

The circumstances of *Grain Processing Corp. v. American Maize Products Co.*,²⁰⁹ spanned over a period of two decades involved a process for maltodextrins, a type of food additive and stabilizer.²¹⁰ Commercial food producers annually use maltodextrins in quantities amounting in hundreds of millions of pounds to inhibit crystal growth in food, to add body, to improve binding and viscosity, and to preserve food.²¹¹ Maltodextrins are produced by submitting starch to hydrolysis, a chemical reaction with water.²¹² The plaintiff Grain Processing held the rights to U.S. Patent No. 3,849,194 which disclosed a form of maltodextrin and method for its production.²¹³ Grain Processing's primary maltodextrin product "Maltrin" did not come within any of the claims in the patent in suit.²¹⁴ Its competitor and defendant American Maize sold maltodextrins under the commercial name "LoDex 10."²¹⁵ During the term of the patent, American Maize used four different processes to manufacture LoDex 10.²¹⁶ Its competitor and defendant, American Maize, sold maltodextrins under the commercial name "LoDex 10."²¹⁷ During the term of the patent, American Maize used four different processes to manufacture LoDex 10.²¹⁸ After several disputes regarding whether there was any infringement, the Federal Circuit determined that the

²⁰⁸ *Promega Corp. v. Lifecodes Corp.*, 53 U.S.P.Q.2d 1463, 1471 (D. Utah 1999) (discussing a royalty base in connection with convoyed sales, but excluding a convoyed sales analysis from its *Georgia-Pacific* analysis).

²⁰⁹ 185 F.3d 1341, 51 U.S.P.Q.2d 1556 (Fed. Cir. 1999).

²¹⁰ *Id.* at 1343, 51 U.S.P.Q.2d at 1557.

²¹¹ *Id.*, 51 U.S.P.Q.2d at 1558.

²¹² *Id.*, 51 U.S.P.Q.2d at 1558.

²¹³ *Id.* at 1344, 51 U.S.P.Q.2d at 1558.

²¹⁴ *Id.*, 51 U.S.P.Q.2d at 1558.

²¹⁵ *Id.*, 51 U.S.P.Q.2d at 1558.

²¹⁶ *Id.*, 51 U.S.P.Q.2d at 1558.

²¹⁷ *Id.*, 51 U.S.P.Q.2d at 1558.

²¹⁸ *Id.* at 1345, 51 U.S.P.Q.2d at 1558.

first two processes used by American Maize to manufacture LoDex 10 resulted in an infringing product.²¹⁹ Collectively, these two processes were used during the period from June 1974 to February 1988.²²⁰ Grain Processing brought its suit against American Maize in May 1981 based on its '194 patent.²²¹ In October 1988, the district court entered an injunction against American Maize prohibiting the company from manufacturing any maltodextrin product that infringed Grain Processing's patent.²²²

In response to the findings of infringement and subsequent injunction, American Maize developed a third process that the defendant used from March 1988 to April 1991.²²³ American Maize manufactured maltodextrin LoDex 10 using this third process and believed that it avoided infringement of the patent-in-suit as the maltodextrin did not have a particular "descriptive ratio" as required by the asserted patent claim when analyzed under certain conditions.²²⁴ American Maize's customers discerned no difference in the LoDex 10 manufactured by the third process and that manufactured by the first two processes.²²⁵ However, due to representations made by Grain Processing in the patent file wrapper, the Federal Circuit eventually determined that American Maize's third process also infringed the Grain Processing patent.²²⁶

This third finding of infringement led American Maize to adopt a fourth process, which added the enzyme glucomylase-alpha amylase to the starch hydrolysis reaction.²²⁷ American Maize perfected the reaction to produce non-infringing maltodextrins in two weeks.²²⁸ During this time, American Maize did not change any of its plant equipment, source starches or other previously used ingredients for its maltodextrins.²²⁹ Glucoamylase had been commercially available and its effect in starch hydrolysis was widely known since prior to the time '194 issued.²³⁰ The cost of the process

²¹⁹ *Id.*, 51 U.S.P.Q.2d at 1559.

²²⁰ *Id.* at 1344, 51 U.S.P.Q.2d at 1558.

²²¹ *Id.* at 1345, 51 U.S.P.Q.2d at 1559.

²²² *Id.*, 51 U.S.P.Q.2d at 1559.

²²³ *Id.*, 51 U.S.P.Q.2d at 1559.

²²⁴ *Id.* at 1346, 51 U.S.P.Q.2d at 1559.

²²⁵ *Id.*, 51 U.S.P.Q.2d at 1556.

²²⁶ *Id.*, 51 U.S.P.Q.2d at 1559.

²²⁷ *Id.*, 51 U.S.P.Q.2d at 1560.

²²⁸ *Id.*, 51 U.S.P.Q.2d at 1560.

²²⁹ *Id.*, 51 U.S.P.Q.2d at 1560.

²³⁰ *Id.*, 51 U.S.P.Q.2d at 1560.

using glucoamylase was slightly higher than other processes for producing maltodextrins.²³¹ Again, consumers discerned no difference between the Process IV LoDex 10 and prior generations of the American Maize product.²³² American Maize used the fourth process from April 1991 until '194 expired in November 1991 and then switched back to the cheaper third process.²³³

Grain Processing sought lost profit damages for lost sales of Maltrin M100 and price erosion.²³⁴ The patentee also sought a 28% royalty for that portion of infringing sales not covered by the lost profits award.²³⁵ The district court denied lost profits and awarded a 3% royalty.²³⁶ In making this determination, the trial court determined that the fourth process LoDex 10 provided an acceptable non-infringing substitute despite its lack of presence in the market prior to American Maize's development of the process in 1991.²³⁷

With regard to the reasonable royalty, the district court also found that American Maize's production cost difference between infringing and noninfringing LoDex 10 put a cap on the reasonable royalty award.²³⁸ The court determined that if Grain Processing insisted on a higher royalty rate for using the infringing third process, then American Maize would simply switch to non-infringing fourth process.²³⁹

The district court found that the glucoamylase-based on the fourth process was an acceptable non-infringing substitute since the effects of glucoamylase were long well-known, the non-infringing alternative took a very short time to perfect and was within the know-how of the defendant American Maize.²⁴⁰ The district court also offered an alternative rationale, that the market demand was for a general form of maltodextrin, which was outside the scope of Grain Processing's '194 patent.²⁴¹ In fact, several aspects of the patentability of the '194 claims were irrelevant to the

²³¹ *Id.*, 51 U.S.P.Q.2d at 1560.

²³² *Id.*, 51 U.S.P.Q.2d at 1560.

²³³ *Id.* at 1347, 51 U.S.P.Q.2d at 1560.

²³⁴ *Id.*, 51 U.S.P.Q.2d at 1560.

²³⁵ *Id.*, 51 U.S.P.Q.2d at 1560.

²³⁶ *Id.*, 51 U.S.P.Q.2d at 1560.

²³⁷ *Id.*, 51 U.S.P.Q.2d at 1560.

²³⁸ *Id.*, 51 U.S.P.Q.2d at 1560.

²³⁹ *Id.*, 51 U.S.P.Q.2d at 1560-61.

²⁴⁰ *Id.* at 1348, 51 U.S.P.Q.2d at 1561.

²⁴¹ *Id.*, 51 U.S.P.Q.2d at 1561.

consumer.²⁴² The district court concluded that Grain Processing did not have a patent on the more general form of maltodextrin, which was the economically significant product and therefore, could not recover lost profits for American Maize's infringement.²⁴³ The Federal Circuit affirmed the district court's denial of lost profits and award of a 3% royalty rate since the trial court's assessment was supported by sufficient evidence.²⁴⁴ The Federal Circuit also affirmed the district court's determination that maltodextrins produced by American Maize's fourth process comprised a non-infringing substitute during the accounting period.²⁴⁵

With regard to the second *Panduit* factor for the determination of whether lost profits may be awarded, *Grain Processing* appears to completely ignore the language in *Zygo Corp. v. Wyro Corp.*²⁴⁶ that “[a] lost profits award reflects the realities of sales actually lost, not the possibilities of a hypothetical market which the infringer might have created.”²⁴⁷ While *Zygo* stated that it was axiomatic that a non-infringing substitute be available for purchase, *Grain Processing* held that “an alleged substitute not ‘on the market’ or ‘for sale’ during the infringement can figure prominently in determining whether a patentee would have made additional profits ‘but for’ the infringement.”²⁴⁸

Relying on language from the Supreme Court decision of *Aro Mfg. Co. v. Convertible Top Replacement Co.*,²⁴⁹ the Federal Circuit discounted the realities of the actual marketplace and provided new guidance for the second *Panduit* factor.²⁵⁰ In particular, “[t]he ‘but for’ inquiry therefore requires a reconstruction of the market, as it would have developed absent the infringing product, to determine what the patentee ‘would . . . have made.’”²⁵¹

The Federal Circuit recognized that

Reconstructing the market, by definition a hypothetical enterprise, requires the patentee to project economic results that did not occur. To prevent the hypothetical from lapsing into pure speculation, this court requires sound economic proof of the nature of the market and likely outcomes with infringement factored out of the economic picture. Within

²⁴² *Id.*, 51 U.S.P.Q.2d at 1561

²⁴³ *Id.*, 51 U.S.P.Q.2d at 1561.

²⁴⁴ *Id.*, 51 U.S.P.Q.2d at 1561.

²⁴⁵ *Id.*, 51 U.S.P.Q.2d at 1561.

²⁴⁶ 79 F.3d 1536, 38 U.S.P.Q.2d 1281 (Fed. Cir. 1991).

²⁴⁷ *Id.* at 1571, 38 U.S.P.Q.2d at 1286

²⁴⁸ *Grain Processing*, 185 F.3d at 1349, 51 U.S.P.Q.2d at 1562.

²⁴⁹ 377 U.S. 476, 141 U.S.P.Q.2d 681 (1964).

²⁵⁰ *Grain Processing*, 185 F.3d at 1349, 51 U.S.P.Q.2d at 1562.

²⁵¹ *Id.*, 51 U.S.P.Q.2d at 1562.

this framework, trial courts, with this court's approval, consistently permit patentees to present market reconstruction theories showing all of the ways in which they would have been better off in the "but for world," and accordingly to recover lost profits in a wide variety of forms.

....

By the same token, a fair and accurate reconstruction of the "but for" market also must take into account, where relevant, alternative actions the infringer foreseeably would have undertaken had he not infringed. Without the infringing product, a rational would-be infringer is likely to offer an acceptable noninfringing alternative, if available, to compete with the patent owner rather than leave the market altogether. The competitor in the "but for" marketplace is hardly likely to surrender its complete market share when faced with a patent, if it can compete in some other lawful manner. Moreover, only by comparing the patented invention to its next-best available alternative(s) – regardless of whether the alternative(s) were actually produced and sold during the infringement – can the court discern the market value of the patent owner's exclusive right, and therefore his expected profit or reward. Thus an accurate reconstruction of the hypothetical "but for" market takes into account any alternatives available to the infringer.²⁵²

The *Grain Processing* court recognized that prior cases relied on evidence of direct market sales of noninfringing substitutes to demonstrate this prong of the *Panduit* test.²⁵³ The court explained that its prior language in *Zygo* that required actual market availability of a noninfringing substitute was merely dicta.²⁵⁴

A. *Implications of Grain Processing*

With the expanding scope of "foreseeable" damages permitted by *Rite-Hite*, *Grain Processing* appears to stem the wide reach of the foreseeability test by placing an additional defense in the accused infringer's arsenal. In particular, *Grain Processing* permits a defendant to introduce evidence that undermines the patentee's ability to meet the second *Panduit* factor. Additionally, although *Grain Processing* analyzed noninfringing substitutes in the context of "lost profits," there is no discernible reason why the hypothetical reconstruction of the market discussed in *Grain Processing* would not apply to the hypothetical negotiation of a reasonable royalty under the test of *Georgia-Pacific*. In particular, the wider availability of proof of a

²⁵² *Grain Processing*, 185 F.3d at 1350-51, 51 U.S.P.Q.2d at 1562-63 (citations omitted).

²⁵³ See e.g., *Minco*, 95 F.3d at 1119, 40 U.S.P.Q.2d at 1008; *Zygo*, 79 F.3d 1563, 38 U.S.P.Q.2d 1281; *Kaufman Co. v. Lantech, Inc.*, 926 F.2d 1136, 17 U.S.P.Q.2d 1828 (Fed. Cir. 1991); *State Indus.*, 883 F.2d at 1579; *Central Soya Co. v. George A. Hormel & Co.*, 723 F.2d 1573, 220 U.S.P.Q. 490 (Fed. Cir. 1993).

²⁵⁴ *Grain Processing*, 185 F.3d at 1351, 51 U.S.P.Q.2d at 1564.

non-infringing substitute would tend to decrease the royalty rate in accordance with the ninth factor of *Georgia-Pacific* that pertains to the advantages of the patented products over known devices. This factor is commonly viewed as the “substitutes” factor to the extent that it considers whether known devices can meet the advantages provided by the patent.

At the present writing, no case has directly applied the new test for “available noninfringing substitutes” set forth in *Grain Processing*. It is postulated that where economics, financial and accounting professionals typically dominated the roles as “damages experts,” *Grain Processing* sets the stage for a new type of damages expert. In particular, the technical expert will play a more prominent role in informing the court on the ready availability of non-infringing substitutes. Both the post-*Grain Processing* of *Honeywell* and *MicroChem* included considerations of the technical factors set forth by the Federal Circuit to determine whether a patentee would be entitled to lost profits. These technical matters include whether the materials for forming the substitute product could be readily obtained, whether the effect of a modification was well known, and the availability of necessary equipment and know-how.²⁵⁵ Again, any “hypothetical” constructions for a non-infringing substitute must be backed by ample evidence. For instance, in *Bose Corp. v. JBL, Inc.*,²⁵⁶ the defendant offered testimony that it could have pursued several non-infringing engineering alternatives in lieu of the patented speaker design.²⁵⁷ The court gave no deference to this position in view of the lack of evidence presented by JBL.²⁵⁸

Additionally, at this time of widespread standardization and government oversight, one question that courts may likely have to determine in the near future is whether a purported substitute that needs to undergo testing for standardization or government administration purposes qualifies as a non-infringing substitute in view of the *Grain Processing* decision.

VI. CONCLUSION

The present general trend in patent damages calculations tend to favor the patentee. In particular, in reasonable royalty calculations, the courts have emphasized the *Georgia-Pacific* factors that typically increase the royalty rates. With regard to the application of the determined royalty rate to a royalty base, including related sales of unpatented components, the additional “functional interrelationship” language of *Rite-Hite* does not

²⁵⁵ *Honeywell*, 166 F.Supp.2d at 1029-1030; *MicroChem*, 161 F.Supp.2d at 1192.

²⁵⁶ 112 F. Supp. 2d 138 (D. Mass. 2000).

²⁵⁷ *Id.* at 160.

²⁵⁸ *Id.*

appear to have significantly impacted whether the entire market rule will apply, because pre-*Rite-Hite* precedent is determinative in most recent cases.

Rite-Hite does appear to expand the availability of lost profits damages by clearly allowing a non-practicing patentee to receive damages for lost sales of apparatus that are not covered by the patent in suit, as long as such damages are foreseeable. The limits of the foreseeability requirement have yet to be vigorously tested in terms of its application to economic losses unrelated to products and services sold by the patentee. Therefore, there appears to be an open question of whether losses attributable to stock price drops or other forms of economic loss can be recovered, provided the patentee can offer sufficient proof of actual causation.

The expansive reach of patent damages has been somewhat tempered by the decision of *Grain Processing*, which offers the infringer an opportunity to show the availability of non-infringing alternatives even though such alternatives may not have been publicly marketed. This potentially makes it more difficult for a patent holder to meet the second element of the *Panduit* test in order to obtain lost profit damages, thereby having to resort to a reasonable royalty award. The *Grain Processing* decision also potentially lowers the royalty rate by providing the accused infringer an additional mechanism to show the presence of acceptable non-infringing substitutes under the *Georgia Pacific* analysis.