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The authors review the implications of WesternGeco v. Ion Geophysical for patent owners' overseas licensing efforts.

The Issue of Lost Profits Stemming from Lost Service Contracts Abroad *ION*-izes the Federal Circuit

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The "presumption against extraterritoriality" has always been an important barometer and safeguard for federal courts to rely on when assessing liability and damages for patent-related transgressions occurring wholly or partially abroad, lest U.S. patent law be allowed to "rule the world"[1] and impinge on the sovereignty of foreign jurisdictions. Recent developments at the U.S. Court of Appeals for the Federal Circuit reveal the tension in applying this backstop principle to exclude from a patentee's potential recovery the lost profits from lost foreign sales of services that its patented technology would have otherwise performed.

In *WesternGeco v. ION Geophysical*,[2] a three-judge panel issued a divided opinion over the proper measure of compensatory damages for patent infringement under 35 U.S.C. § 271(f). Specifically, the damages issue focused on liability for exporting an incomplete product in light of the perceived limits of recovery available under 35 U.S.C. § 271(a) with respect to completed products. On Oct. 30, 2015, the Federal Circuit declined to rehear the case en banc, drawing dissent from three of the 12 active judges on the bench.[3]

[1] *See generally Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 454, 82 U.S.P.Q.2d 1400 (2007) (74 PTCJ 7, 5/4/07).

[2] *WesternGeco LLC v. ION Geophysical Corp.*, 791 F.3d 1340, 115 U.S.P.Q.2d 1597 (Fed. Cir. 2015) (90 PTCJ 2538, 7/10/15) (hereinafter, "*WesternGeco II*").

[3] No. 2013-1527, 2015 BL 357523 (Fed. Cir. Oct. 30, 2015). Judge Evan J. Wallach, who had dissented from the original panel decision, was joined by fellow Judges Pauline Newman and Jimmie V. Reyna who wished to rehear the lost profits issue. As additional support, they point to parallels in copyright law: "The predicate act doctrine holds that a copyright owner

The panel opinion gives rise to several significant questions regarding damages awards under Section 271(f). Should federal precedent on Section 271(a) inform the treatment of Section 271(f)? Should an accounting of damages differ where (a) a competing foreign *sale* of an infringing article deprives a patentee of a foreign sale of an embodying product, and (b) a competing foreign *use* of an infringing article deprives a patentee of a sale of a foreign service contract? While reasonable royalties are the lower bound for recovery per Section 284, should they also be the ceiling for patentees prevailing under Section 271(f)?

Both the majority and dissenting opinions draw lines based on a gamut of seemingly instructive case law decisions, but without factually apposite Supreme Court precedent enabling the court to ultimately clarify the critical factors governing Section 271(f) relief.

Background

Should an enterprising infringer in the U.S. who has separately exported some or all unassembled components of an otherwise patented combination to its foreign customers for assembly abroad be able to escape liability under Section 271(a)? When the Supreme Court considered this scenario in *Deepsouth*[4] four decades ago, it applied the presumption against extraterritoriality and left the patentee without recourse.[5] The result underscored an easily exploitable vehicle whereby a copy-cat could restructure a part of his global supply chain and business model to circumvent U.S. patent law. The court was well aware of this awkward situation, but ultimately chose to defer its resolution to Congress, concluding that ''the sign of how far Congress has chosen to go can come only from Congress. We are here construing the provisions of a statute passed in 1952.''[6]

By enacting 35 U.S.C. § 271(f) in 1984, Congress not only sought to close the loophole revealed in *Deepsouth*, but also to extend the scope of potential liability (but not necessarily the potential exposure) for accused infringers who deliberately supplied components for assembly abroad.[7] The legislative solution appeared to place a would-be infringer—who induces assembly[8] of discrete components of a combination abroad—in the same shoes and peril as one who assembles the same components domestically to create an infringing combination.[9]

Despite the dozens of Section 271(f) cases in the thirty years since its enactment and cited in *WesternGeco II* that discuss the scope of liability, it seems that the appellate courts have had little occasion to focus on the proper scope of recovery.[10] Indeed, only one case[11] cited in the *WesternGeco II* opinion included a substantial discussion on the damages issue whereas the rest[12] were silent—or had no need to consider—the damages issue after deciding the predicate liability issue under Section 271(f).

'is entitled to recover damages flowing from the exploitation abroad of . . . domestic acts of infringement.' '' (citing *L.A. News Serv. v. Reuters Television Int'l, Ltd.*, 149 F.3d 987, 991-92, 47 U.S.P.Q.2d 1349 (9th Cir. 1998)).

[4] *See Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 47 U.S.P.Q.2d 1349 (1972).

[5] *See Deepsouth*, 406 U.S. at 531 (''[W]e note that what is at stake here is the right of American companies to compete with an American patent holder in foreign markets. *Our patent system makes no claim to extraterritorial effect*; . . . To the degree that the inventor needs protection in markets other than those of this country, . . . *congressional intent to have him seek it abroad* through patents secured in countries where his goods are being used.'') (emphasis added).

[6] *Deepsouth*, 406 U.S. at 530.

[7] *See, e.g.*, *Microsoft*, 550 U.S. at 458 n.18 (explaining how Section 271(f), ''in one respect, reach[es] past the facts of *Deepsouth*''; specifically, by not requiring that *all* components in the patented system be exported for combination, which Section 271(a) would have required under the all-elements rule).

[8] Liability under Section 271(f)(2) attaches after exporting a non-staple article with the requisite knowledge and intent that it be assembled into an otherwise infringing combination, without requiring the assembly abroad to actually occur. *See, e.g.*, *Waymark Corp. v. Porta Sys. Corp.*, 245 F.3d 1364, 1368, 58 U.S.P.Q.2d 1456 (Fed. Cir. 2001) (61 PTCJ 572, 4/13/01).

[9] *See* Patent Law Amendments of 1984, Pub. L. 98-622, Nov. 8, 1984.

[10] *See e.g., Union Carbide Chems. & Plastics Tech. Corp. v. Shell Oil Co.*, 425 F.3d 1366, 76 U.S.P.Q.2d 1705 (Fed. Cir. 2005) (70 PTCJ 625, 10/7/05); *Microsoft*, 550 U.S. 437; *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 576 F.3d 1348, 91 U.S.P.Q.2d 1898 (Fed. Cir. 2009) (en banc) (Newman, J., dissenting) (78 PTCJ 502, 8/21/09).

[11] *See Union Carbide*, 425 F.3d at 1377-80 (discussing computation of damages where defendants were accused of exporting catalysts in the production of ethylene oxide that infringed asserted patents), *overruled by Cardiac Pacemakers*, 576 F.3d at 1365.

[12] *See, e.g.*, *Microsoft*, 550 U.S. at 451-55 (domestically supplied master copy of Windows whose foreign-made copies were installed on foreign-made OEM computers did not bring combination within ambit of Section 271(f)); *and Cardiac Pacemakers*, 576 F.3d at 1262-65 (holding Section 271(f) inapplicable to method claims because steps of a method are not ''components'' of a ''patented invention''); *see also, e.g.*, *Proveris Scientific Corp. v. Innovasystems, Inc.*, 739 F.3d 1367, 1374, 109 U.S.P.Q.2d 1314 (Fed. Cir. 2015) (87 PTCJ 543, 1/17/14) (neither party disputed lower court's exclusion of profits from foreign sale infringing under 35 U.S.C. § 271(f)); *Liquid Dynamics Corp. v. Vaughan Co., Inc.*, 449 F.3d 1209, 1222-23, 79 U.S.P.Q.2d 1094 (Fed. Cir. 2006) (72 PTCJ 152, 6/9/06) (jury's calculation of damages under Section 271(f)(1) not disputed on appeal); *NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1322, 75 U.S.P.Q.2d 1763 (Fed. Cir. 2005) (70 PTCJ 402, 8/5/05) (§ 271(f) inapplicable to method claims and only reasonable royalties at issue); *Eolas Techs. Inc. v. Microsoft Corp.*, 399 F.3d 1325, 1338-41, 73 U.S.P.Q.2d 1782 (Fed. Cir. 2005) (69 PTCJ 471, 3/11/05) (domestically supplied master copy of Windows whose foreign-made copies were installed on foreign-made OEM computers brought combination within ambit of Section 271(f)(1), but only reasonable royalties were at issue); *Pellegrini v. Analog Devices, Inc.*, 375 F.3d 1113, 1117-19, 71 U.S.P.Q.2d 1630 (Fed. Cir. 2004) (68 PTCJ 315, 7/16/04) (§ 271(f)(1) inapplicable where components are made outside the U.S. and never physically shipped to or from the U.S.); *Waymark*, 245 F.3d at 1368 (post-exportation, actual combination or assembly of the components by the alleged infringer is not required to find infringement under Section 271(f)(2)); *Rotec Inds., Inc. v. Mitsubishi Corp.*, 215 F.3d 1246, 1260, 55 U.S.P.Q.2d 1001 (Fed. Cir. 2000) (Newman, J., concurring) (60 PTCJ 134, 6/16/00) (application of Section 271(f) was moot in a case hinging on ''offers for sale'' under Section 271(a) where no component of the allegedly infringing combination oriented from the U.S.); *Amstar Corp. v. Envirotech Corp.*, 823 F.2d 1538, 1546, 3 U.S.P.Q.2d 1412 (Fed. Cir. 1987) (concluding that Section 271(f) was not retroactive and that sales of parts assembled abroad did not infringe under *Deepsouth*).

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A more recent example, *Promega*,[13] turned on two Section 271(f)(1) questions that were unrelated to damages, i.e., (i) whether an entity can "actively induce" itself[14] to infringe, and (ii) whether a single exported component could satisfy the statute's express provision of "a substantial portion of the components of a patented invention."[15] Unfortunately, *Promega* may have only muddied the waters with respect to the propriety of including foreign lost profits in a damages award for Section 271(f) infringement because the parties did not dispute—and the Federal Circuit did not disapprove—the foreign lost profits portion of the jury award.[16]

In *WesternGeco II*, the Federal Circuit considered, on an issue of first impression, the proper methodology for calculating damages under Section 271(f). The question before the court focused on whether a supplier of components intended for use in a patented invention was obligated to pay for a patentee's lost foreign service contracts due to competing use of the assembled components. The majority of the divided panel denied the patentee's recovery of worldwide lost profits but allowed for worldwide reasonable royalties. In so doing, the *WesternGeco II* panel cut an uncertain trail for posterity that distinguished the treatment of lost profits from reasonable royalties, seemingly without justification.

WesternGeco in the First Instance

Plaintiff-appellee WesternGeco and defendant-appellant ION both manufactured marine-application seismic streamer and lateral steering devices—i.e., the Q-Marine System and the DigiFIN streamers, respectively—used to accurately survey ocean floors for subterranean oil and gas sites. WesternGeco adopted a business model under which it declined to sell its Q-Marine System "seismic streamers" components to customers; rather, it performed surveys on behalf of customers outside of the U.S. In contrast, ION manufactured its DigiFIN streamer components in the U.S., but instead of providing competing surveying services, it chose to sell and export the components to its customers abroad (e.g., the Fugro entities[17]) for combination with other survey equipment. The Fugro entities, in turn, would directly compete with WesternGeco for high-value service contracts to perform multimillion-dollar ocean surveys outside of the U.S. in international waters.[18]

WesternGeco sued ION and the Fugro entities for infringing apparatus claims of four U.S. patents covering the foreign-assembled devices under § § 271(f)(1) and (f)(2).[19] WesternGeco further identified at least 10 surveys worth over $90 million in profits that it claimed it lost to Fugro. WesternGeco advanced the causal argument that despite the surveys' performance outside of the U.S., the Fugro entities would not have won those survey contracts "but for" their access to ION's exported DigiFIN streamer products. WesternGeco further argued that (a) the accused DigiFIN streamer products had no substantial noninfringing use and (b) WesternGeco therefore should be made whole by recovering its lost profits stemming from the lost surveys.[20]

The jury found the asserted claims of WesternGeco's patents valid and infringed by ION under both Sections 271(f)(1) and (f)(2), and awarded damages of $93.4 million in lost profits and $12.5 million in reasonable royalties.[21]

ION moved for judgment as a matter of law, a new trial, and remittitur on the awarded damages, insisting that it "can only be liable for [']supplying['] the component and cannot extend to subsequent [']making['] or [']using['] of a device abroad."[22] Not persuaded, the district court found stock in policy arguments and, speculating as to Congressional intent, concluded that were ION's exposure limited to its supplying only—as opposed to accounting for the consequent lost foreign sales as well—"then § 271(f) would lose all its weight, allowing a loophole for manufacturers to export components for infringing uses abroad."[23] Following the district court's denials of these motions and its holding that "lost profits can appropriately be recovered from these infringing [foreign] sales,"[24] ION appealed the lost profits portion but did not challenge the jury's reasonable royalty award.

Differing Opinions in *WesternGeco II*

On appeal, the panel agreed that there was infringement but "split" into two separate camps regarding how to treat the lost profits component of the damages award. Writing for the panel majority, Judge Timothy B. Dyk reversed the lower court's decision on the lost profits component of the jury's damages award. Using Section 271(a) as the "outer marker" for direct infringement liability and relying on *Power Integrations*,[25] which denied the recovery of lost profits for foreign

[13] *See Promega Corp. v. Life Tech. Corp.*, 773 F.3d 1338, 113 U.S.P.Q.2d 1181 (Fed. Cir. 2014) (89 PTCJ 447, 12/19/14).

[14] *See Promega*, 773 F.3d at 1351-53 (majority holding that one could actively induce itself) and 1358 (Prost, J., dissenting) ("we have never before held—in the context of either Section 271(f) or 271(b)—that a party can induce itself to infringe.").

[15] *See Promega*, 773 F.3d at 1353-56 (holding that any number of components could be a "substantial portion" as long as the patented invention would be "inoperable" without the existence of such components).

[16] Somewhat curiously, Chief Judge Sharon Prost and Judge Raymond T. Chen, who *sub silentio* approved of the inclusion of foreign lost profits in the damages accounting in *Promega*, both decided against rehearing *WesternGeco* en banc instead of casting lots with Wallach.

[17] *See WesternGeco LLC v. ION Geophysical Corp.*, 4:09-cv-01827, ECF Nos. 145 (S.D. Tex., March 14, 2011).

[18] *See WesternGeco LLC v. ION Geophysical Corp.*, 953 F. Supp.2d 731, 739, 759, 2013 BL 162164 (S.D. Tex., 2013) (hereinafter, "*WesternGeco I*"); *see also, e.g.*, *WesternGeco II*, 791 F.3d at 1343.

[19] *See WesternGeco I*, 953 F. Supp.2d at 739; *WesternGeco II*, 791 F.3d at 1343. *See also WesternGeco LLC v. ION Geophysical Corp.*, No. 4:09-cv-01827, D.I. 1 (S.D. Tex., June 12, 2009); D.I. 145 (S.D. Tex., March 14, 2011).

[20] *See WesternGeco II*, 791 F.3d at 1349.

[21] *See WesternGeco I*, 953 F. Supp.2d at 740 and 750; *WesternGeco II*, 791 F.3d at 1344. *See also WesternGeco LLC v. ION Geophysical Corp.*, No. 4:09-cv-01827, D.I. 536 (S.D. Tex., Aug. 16, 2012).

[22] *See WesternGeco I*, 953 F. Supp.2d at 755.

[23] *See id.*.

[24] *See id.* at 756.

[25] *See Power Integrations, Inc. v. Fairchild Semiconductor*, 711 F.3d 1348, 1371, 106 U.S.P.Q.2d 1361 (Fed. Cir. 2013) (85 PTCJ 809, 4/5/13) ("[U.S. patent laws] do not thereby provide compensation for a defendant's foreign exploitation of a patented invention, which is not infringement at all.").

sales of a patented invention, he concluded that Section 271(f) should not allow greater recovery. Specifically, Dyk reasoned that ''[j]ust as the United States seller or exporter of a final product cannot be liable for use abroad, so too the United States exporter of the component parts cannot be liable for use of the infringing article abroad.''[26]

Citing earlier Supreme Court decisions in *Microsoft* and *Deepsouth*,[27] Dyk stressed the ''longstanding principle of American law that legislation of Congress, unless a contrary intent appears, is meant to apply only within the territorial jurisdiction of the United States.''[28] The court interpreted any departure from this bedrock principle narrowly, reading Congress's intent when legislatively overturning *Deepsouth* as merely imposing liability on domestic entities shipping components abroad ''just as if they had manufactured the infringing product itself in the United States.''[29] Thus, while the enactment of Section 271(f) ''expanded the territorial scope of the patent laws to treat the export of *components of patented systems* abroad (with the requisite intent) just like the export of the *finished systems* abroad,'' there was no indication that ''Congress intended to extend the United States patent law to cover *uses* abroad of the articles created from the exported components.''[30]

The panel majority further held that ''the fact that WesternGeco is not entitled under United States patent law to lost profits from the foreign uses of its patented invention *does not mean that it is entitled to no compensation*''[31] and upheld the globally based reasonable royalty-portion of the damages award: $12,500,000.

Wallach dissented from the court's reversal of the damages for including lost profits from the lost foreign service contracts. He was not troubled by the potential broader reach of Section 271(f) and considered it a given.[32] He distinguished *Power Integrations* as a Section 271(a) case that foreswore foreign lost profits because the accused foreign sales of foreign manufactured chips were not tied to any domestic infringing activity.[33] In contrast, ION's components were made in the U.S. and then exported from the U.S. to enable the Fugro entities to deprive WesternGeco of service contracts it otherwise would have won. He further noted that the majority did not dispute that infringement had occurred under at least Section 271(f)(2), but had improperly circumscribed the patentee's recovery to something less than full compensation.[34]

Relying primarily on reasoning in two Supreme Court cases,[35] Wallach observed that lost foreign sales could be used to inform the calculation of lost profits and, therefore, damages. In addition, he ventured to distill the reasoning in *Minco*[36]—where subsequent noninfringing foreign sales of fused silica produced by domestically sold, infringing kiln were used to calculate the royalty and lost profits base—to further suggest that foreign service contracts requiring use of ION's domestically made, infringing survey devices also should be accounted for in calculating damages suffered by WesternGeco.[37]

None of the precedent cited by Judge Wallach dealt squarely with lost foreign service contracts from the competing use of an otherwise infringing product assembled abroad. Instead, those precedents primarily involved lost foreign product sales from the competing sale of that assembled product abroad. This distinction was not lost on the panel majority.[38]

Federal Circuit Leanings Since *WesternGeco II*

On balance, the remaining judges on the Federal Circuit appear to have sided with the *WesternGeco II* majority. Even before the bench declined to rehear the case en banc, its decision in *Carnegie Mellon University v. Marvell Techology Group*.[39]—another Section 271(a) chip case—offered a good indicator for predicting that the Federal Circuit would deny WesternGeco's petition for rehearing en banc. Handed down one month after Wallach's dissent, the unanimous *Marvell* panel twice refers to *WesternGeco II* for the proposition that foreign *use* of patent components cannot be a basis for lost-profits damages[40] and echoes *Power Integration*'s extra-territorial apprehension with including within damages calculations ''the chips made and delivered abroad, and never imported into the United States. . .''[41]

To be sure, *Marvell* softly backpedals away from a categorical proscription of including any and all foreign

[26] *See WesternGeco II*, 791 F.3d at 1351.
[27] *See id.* at 1349-50; *see also Equal Emp't Opportunity Comm'n v. Arabian Am. Oil Co.*, 499 U.S. 244, 248 (1991).
[28] *Equal Emp't*, 499 U.S. at 248.
[29] *WesternGeco II*, 791 F.3d at 1350.
[30] *Id.* (emphasis added).
[31] *See id.* at 1351 (emphasis added).
[32] *See id.* at 1362 n.4 (Wallach, J., dissenting) (''Of course, § 271(f) is broader than § 271(a) in that it reaches the supply of 'all or a substantial portion of the components of a patented invention.' '').
[33] *See id.* at 1359 (Wallach, J., dissenting) (''*Power Integrations* explained the plaintiffs had cited no case law supporting the use of 'sales consummated in foreign markets, regardless of any connection to infringing activity in the United States,' when calculating damages.'').
[34] *See id.* at 1355 (Wallach, J., dissenting) (''The relevance of foreign activities is not limited to the underlying issue of liability for infringement, but also relates to the associated issue of damages. It is on the issue of damages that the majority errs.'').
[35] *See Goulds' Mfg. Co. v. Cowing*, 105 U.S. 253, 258 (1881) (calculating lost profits per pump for each U.S.-made pump sold in Canada); and *Dowagiac Mfg., Co. v. Minnesota Moline Plow Co.*, 235 U.S. 641, 643, 650 (1915) (suggesting that patentee could have recovered lost profits on infringing drills sold in Canada had they been made in the U.S.).
[36] *See Minco, Inc. v. Combustion Eng'g, Inc.*, 95 F.3d 1109, 1118, 40 U.S.P.Q.2d 1001 (Fed. Cir. 1996) (''In awarding both lost profits and a reasonable royalty, the trial court used the sale of [noninfringing] fused silica [produced using a patented kiln] as the baseline for measuring damages.'').
[37] *See WesternGeco II*, 791 F.3d at 1357 (Wallach, J., dissenting) (''where a patented device is used to manufacture unpatented products that are later sold, the noninfringing sales can be used to calculate lost profits or reasonable royalties.'').
[38] *See id.* at 1352 (''None of these cases is remotely similar to this one'').
[39] *See Carnegie Mellon Univ. v. Marvell Tech. Group, Ltd.*, No. 2014-1492, 2015 BL 249866, 116 U.S.P.Q.2d 1081 (Fed. Cir. Aug. 4, 2015) (90 PTCJ 2821, 8/7/15) (hereinafter, ''*Marvell*'').
[40] *See id.*, slip op. at 36-38.
[41] *See id.*, slip op. at 36.

sales from a damages calculation.[42] Judge Richard G. Taranto, penning the opinion, recognized that ''[d]omestic actions often have extraterritorial effects, and foreign actions domestic connections.''[43] But the evidence must establish a threshold connection between the U.S. and the accused foreign activity.

Taranto concluded that the text of ''§ 271(a) provides the basis for drawing the needed line''—i.e., ''making *or* using *or* selling in the United States *or* importing into the United States, even if one or more of those activities also occur abroad.''[44] The *Marvell* court ultimately reversed the jury's award of a 50-cent royalty per chip on all worldwide sales; excluded those made, used, and sold abroad; and remanded to the lower court the determination of whether any of the foreign-made and foreign-delivered chips were later ''sold'' within or later imported into the U.S., thus providing a territorial tether. Of note, Wallach sat on the *Marvell* panel, but did not take issue with the court's characterization of *WesternGeco II*.

The *Marvell* opinion goes out of its way in dicta to distinguish lost profits and royalties in the context of foreign sales, observing that:

> There are significant conceptual differences between different measures of monetary compensation for infringement—including between what agreement the parties would have reached to value a defendant's use of the patentee's technology (reasonable royalty) and what amount of otherwise-made profits, based on sales at certain prices, the patentee lost as a result of the defendant's use of the patentee's technology (lost profits).[45]

In light of Wallach's continuing dissent in the court's denial for rehearing of the *WesternGeco* case en banc post-*Marvell*, one might surmise that he remained unconvinced by Taranto's attempt to thread the needle and distinguish between the two recovery measures. Nonetheless, readers might speculate that Wallach may have refrained from writing a separate concurrence in *Marvell* because (i) the case's infringement theory rested on Section 271(a) instead of 271(f), and (ii) only reasonable royalties were implicated, as opposed to lost profits (because the university was not an industry player making competing sales).

Likewise, readers of *Marvell* might also inquire as to the position of Judge Chen, the third member of the *Marvell* panel. Not having objected to the inclusion of lost profits from foreign sales in *Promega* where the damages award was not at issue on appeal, he nonetheless appears to have declined the opportunity to seek rehearing of *WesternGeco II* where foreign lost profits was the central dispute. Perhaps, just as it might be in Wallach's case, the interim *Marvell* opinion and its dicta failed to elicit a separate response from Chen for the same two reasons. Moreover, *Marvell* never mentioned *Promega* (in contrast with the twice-cited *WesternGeco II*).

Additional Thoughts

WesternGeco II is instructive because it is the first appellate case addressing the proper measure of damages under Section 271(f) where the jury award contained both loss profits and reasonable royalty components. Prior to *WesternGeco II*, there were only two appellate Section 271(f) cases that discussed the determination of damages, *Union Carbide*[46] and the en banc *Cardiac Pacemakers* case[47] that overruled *Union Carbide*.[48]

In *Union Carbide*, the defendant sold catalysts that would be used in producing ethylene oxide that would infringe Union Carbide's method patent. Although the damages award included both lost profits and reasonable royalties for domestic exploitation, the Federal Circuit remanded because the lower court failed to additionally account for the exportation of catalysts from the U.S. for foreign use in its damages calculation. Specifically, the Federal Circuit found reversible the district court's ''not account[ing] for Shell's exportation of catalysts because the district court ruled *in limine* that 35 U.S.C. § 271(f) damages are not available for process claims . . . .''[49]

Undoing this jurisprudence, however, the Federal Circuit subsequently overruled *Union Carbide* en banc by holding that method claims were not eligible ''patented inventions'' in Section 271(f), because they did not recite tangible ''components'' that could be supplied from the U.S.[50]

The wealth of analogous caselaw but lack of factually indistinguishable precedent may have led the *WesternGeco II* majority to take the conservative approach in damages calculations and fall back on the traditional presumption against extraterritorial application. Conversely, however compelling the case the dissent made for including lost foreign revenues causally related to an act of infringement under Section 271(f), it is unclear whether the jurisprudential foundations supporting the proposed, farther-reaching formulation are any sounder.

WesternGeco II highlights two conundrums: (i) whether Section 271(f) was enacted to place an exporter in no *worse* a position than a domestic infringer under Section 271(a)—it is clear that by closing the *Deepsouth* loophole, Congress put the exporter in no *better* a position than if it assembles the components into a patented combination domestically—and (ii)

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[42] Indeed, the opinion appears to reach further and cut the other way, questioning the *WesternGeco II* majority's unqualified sign-off of reasonable royalties based on worldwide sales.

[43] *See id.*, slip op. at 36.

[44] *See id.*, slip op. at 37 (emphasis original).

[45] *See id.*, slip op. at 38 (citation omitted).

[46] *See Union Carbide*, 425 F.3d at 1378 (''In addition, the district court properly permitted the jury to consider damages evidence about Shell's profits for MEG production. . . . With this linkage, this court perceives no error in permitting the jury to factor evidence of bundling and convoyed sales into a determination of the scope of the royalty base.'').

[47] *See Cardiac Pacemakers*, 576 F.3d at 1359 (''In the present case, however, Cardiac is not seeking lost profits on an apparatus and therefore cannot rely on the reasoning in *Stryker*. Here, Cardiac seeks royalties on its patented method.'').

[48] Although worldwide lost profits were included within the jury award in *Promega*, that portion of the damages award was not disputed by the parties nor addressed by the court on appeal. Analogously, in *Railroad Dynamics*, while reasonable royalties were awarded on U.S.-manufactured carsets sold worldwide, 35 U.S.C. § 271(f) would not be effective until later that same year and the plaintiff failed to prove lost profits. 727 F.2d at 1519.

[49] *Union Carbide*, 425 F.3d at 1369.

[50] *Cardiac Pacemakers*, 576 F.3d at 1365 (en banc) (''In sum, the language of Section 271(f), its legislative history, and the provision's place in the overall statutory scheme all support the conclusion that Section 271(f) does not apply to method patents.'') (Newman, J., dissenting).

what damages were suffered as a result of the infringement?

As to the first issue, if Section 271(f) merely places the alleged infringer and the patentee in the same position that they would have occupied under Section 271(a), then the patentee would not be entitled to lost profits from foreign uses abroad. The accounting for damages would be limited to the *sales* made from the U.S. but exclude subsequent extraterritorial *use*, the latter which would indisputably be noninfringing under Section 271(a). Does the patentee get a windfall, if, as the dissent suggests, Section 271(f) affords the patentee compensation for losing out on competing uses that wholly occur abroad? And although the dissent did not appear to be concerned with the potential for double recovery in multiple jurisdictions any more than the panel majority was with the specter of no recovery anywhere, one could envision a hypothetical scenario where after winning $93.4 million in lost profits against ION under Section 271(f) in a federal court, WesternGeco could turn around and sue the Fugro entities for another $93.4 million in the jurisdiction from which their ships performing the seismic surveys are flagged—or, if the surveys were not conducted on the high seas, then in whichever country the surveys occurred—using the corresponding foreign counterparts to WesternGeco's U.S. patents.

As to the second, equally thorny issue, it is clear that but for ION's sale of the DigiFIN streamer component, WesternGeco would not have suffered $93.4 million in losses. And 35 U.S.C. § 284 jurisprudence unmistakably pegs compensatory damages as the amount the patentee "suffered as a result of the infringement."[51] But the $93.4 million in losses were a direct result of the competing use made by an intervening third party, the Fugro entities. Had the Fugro entities not made any use of the DigiFIN streamer, the mere supply/sale of that component would not have harmed WesternGeco nearly as much. In other words, looking at ION's actions in a vacuum, the loss to WesternGeco from ION's sale per se, i.e., the value from ION's use of the patented technology,[52] appears better quantified by a reasonable royalty. One could argue that the bulk of the $93.4 million in losses suffered by WesternGeco was not the "result" of ION's infringement (i.e., domestically supplying a component for assembly abroad), but instead the result of the Fugro entities' noninfringing foreign use.

Perhaps, rather than perform the surveys itself, had WesternGeco altered its business model to mimic ION's and offered to sell (e.g., for $90 million per unit) its Q-Marine System components to others to perform seismic surveys in direct competition with the Fugro entities, then WesternGeco would have been in a better position to claim the $90 million that it lost. At least then, even under Section 271(f), it would be able to ground its damages theory in competing component *sales*/exports against ION's component sales, rather than in post-sale competing *uses* abroad by the foreign-assembled finished product.

Conclusion

The *WesternGeco II* panel agreed that ION's conduct gave rise to infringement under at least Section 271(f)(2), but disagreed as to the proper measure of damages that flowed from that liability determination. In light of the shortcomings of the source material—none of which is "on all fours" with the facts of *WesternGeco*—available to them, both sides have managed to assemble plausible but not dispositive arguments for their respective interpretations.

The immediate consequence of *WesternGeco II* appears to be that would-be infringers under Section 271(f) face, at worst, the penalty of a reasonable royalty, dis-incentivizing precautionary licensing and incentivizing more aggressive sales practices as well as the restructuring of one's supply chain to outsource portions of manufacturing and/or assembly offshore.

Perhaps unsettling for practitioners, the panel majority omitted its rationale for discriminating between worldwide loss profits and worldwide royalties. Further, dicta in *Marvell* conclusorily suggested "significant conceptual differences" between the two measures, but did not dwell on the subject. Similarly, despite Judge Wallach's attempt to lead the charge in *ION*, the majority of the bench appears reluctant to air out its differences, having passed on the opportunity to sit en banc and iron out these wrinkles in Section 271(f) jurisprudence. It will be interesting to see, then, whether this issue will be teed up—WesternGeco's petition for certiorari was due Dec. 28—accepted, and addressed by the Supreme Court and whether it decides to reverse the poles.

[51] *See Warsaw Orthopedic, Inc. v. Nuvasive, Inc.*, 778 F.3d 1365, 1374, 113 U.S.P.Q.2d 1873 (Fed. Cir. 2015) (89 PTCJ 1191, 3/6/15) (citing *SmithKline Diagnostics, Inc. v. Helena Labs. Corp.*, 926 F.2d 1161, 1164, 17 U.S.P.Q.2d 1922 (Fed. Cir. 1991)).

[52] *See Warsaw*, 778 F.3d at 1375 (citing *Aqua Shield v. Inter Pool Cover Team*, 774 F.3d 766, 770, 113 U.S.P.Q.2d 1347 (Fed. Cir. 2014) (89 PTCJ 522, 1/2/15) ("The 'value of what was taken'—the value of the use of the patented technology—measures the royalty.") (internal citation omitted)).

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