

**United States Court of Appeals  
for the Federal Circuit**

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**WESTERNGECO L.L.C.,**  
*Plaintiff-Cross-Appellant*

v.

**ION GEOPHYSICAL CORPORATION,**  
*Defendant-Appellant*

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2013-1527, 2014-1121, 2014-1526, 2014-1528

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Appeals from the United States District Court for the Southern District of Texas in No. 4:09-cv-01827, Judge Keith P. Ellison.

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Decided: January 11, 2019

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Before DYK, WALLACH, and HUGHES, *Circuit Judges*.

DYK, *Circuit Judge*.

This case returns to us from the Supreme Court. *WesternGeco LLC v. ION Geophysical Corp.*, 138 S. Ct. 2129 (2018) (“*WesternGeco III*”). The sole claim remanded to us by the Supreme Court is the lost profits award. The Supreme Court held “that WesternGeco’s damages award for lost profits was a permissible domestic application of [35 U.S.C.] § 284,” *id.* at 2139, reversing our decision in *WesternGeco LLC v. ION Geophysical Corp.*, 791 F.3d 1340, 1349–52 (Fed. Cir. 2015), (“*WesternGeco I*”).<sup>1</sup> But the Supreme Court did not decide other challenges to the lost profits award. In light of the Supreme Court’s decision and the intervening invalidation of four of the five asserted patent claims that could support the lost profits award, we remand to the district court.

#### BACKGROUND

This case involves a patent infringement suit brought by WesternGeco L.L.C. (“WesternGeco”) against ION Geophysical Corp. (“ION”) for infringement of claims 18, 19, and 23 of U.S. Patent No. 7,293,520, claim 15 of U.S. Patent No. 7,162,967, and claim 15 of U.S. Patent No.

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<sup>1</sup> Our decision in *WesternGeco I* was vacated on other grounds by *WesternGeco LLC v. ION Geophysical Corp.*, 136 S. Ct. 2486 (2016), but was reinstated in relevant part on remand by *WesternGeco LLC v. ION Geophysical Corp.*, 837 F.3d 1358 (Fed. Cir. 2016) (“*WesternGeco II*”).

7,080,607 (“Bittleston patents”), as well as claim 14 of U.S. Patent No. 6,691,038 (“Zajac patent”).

The patented technology in this case relates to marine seismic surveys for discovering oil and gas deposits beneath the ocean floor. The patent claims are directed to technology for controlling the movement and positioning of long streamers towed by a ship. Sensors are located along the length of these streamers, and they detect returning sound waves that are bounced off of the ocean floor by an airgun. The collected data is then used to create a map of the ocean’s subsurface geology. Controlling the positioning of the various streamers in the array is important to the quality of the maps generated, which, in turn, is important to identifying drilling locations for oil or gas.

Both WesternGeco and ION domestically manufacture devices, the Q-Marine and DigiFin respectively, for steering streamers in marine seismic surveys. WesternGeco does not sell its device, instead using it to perform surveys abroad for oil companies. ION does not perform surveys, instead supplying its device to customers who perform the surveys abroad. This case does not involve any question as to lost profits from domestic surveys.

In 2009, WesternGeco sued ION for patent infringement based on ION’s sales of its DigiFin devices to WesternGeco’s competitors in the marine seismic survey market. After a jury trial, the asserted patent claims were found to be not invalid, and ION was found to have infringed all of the asserted patent claims under 35 U.S.C. §§ 271(f)(1) and (2). The jury awarded WesternGeco a reasonable royalty of \$ 12.5 million and lost profits of \$ 93.4 million, but declined to award WesternGeco enhanced damages for willful infringement. The lost profits award was based on 10 surveys, which, according to WesternGeco, it would have won “but-for” ION’s sales of its DigiFin device to WesternGeco’s competitors. West-

ernGeco argues that without the patented technology embodied in the device, ION's customers would not have been able to win the bids for the 10 surveys at issue.

In *WesternGeco I* we reversed the lost profits award as being based on an unauthorized extraterritorial application of the patent laws. Judge Wallach dissented on this point. 791 F.3d at 1349–52, 1354–64. We unanimously affirmed the district court's refusal to award enhanced damages for willful infringement. *WesternGeco I*, 791 F.3d at 1353–54. WesternGeco petitioned for certiorari, which the Supreme Court granted, vacated our original decision in *WesternGeco I*, and remanded for further proceedings consistent with its decision in *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923, 1935–36 (2016). We reinstated our earlier opinion, including reversal of the lost profits award, but we vacated the district court's denial of enhanced damages and remanded for further consideration in light of *Halo*. *WesternGeco II*, 837 F.3d at 1361–64.

On remand, WesternGeco sought \$ 43.6 million in enhanced damages, and the district court awarded WesternGeco \$ 5 million in enhanced damages. The parties then entered into a stipulated “Final Judgment pursuant to Fed. R. Civ. P. 58.” The stipulation noted that the parties had agreed to the reasonable royalty amount and that ION had paid the full amount on November 25, 2016. Both parties agreed not to appeal the enhanced damages award and provided a schedule for payment of the enhanced damages award. The only item exempt from the stipulation was the lost profits award, which WesternGeco had petitioned for certiorari, requesting review of our decision on the lost profits award. Neither party appealed the stipulated final judgment.

The petition was granted with respect to the lost profits award, and in *WesternGeco III*, the Supreme Court reversed our decision on lost profits, holding that “WesternGeco's damages award for lost profits [under 35 U.S.C.

§ 271(f)(2)] was a permissible domestic application of § 284,” 138 S. Ct. at 2139, “as it was ION’s domestic act of supplying the components that infringed WesternGeco’s patents,” *id.* at 2138. The Supreme Court also noted that “[i]n reaching this holding, we do not address the extent to which other doctrines, such as proximate cause, could limit or preclude damages in particular cases.” *Id.* at 2139 n.3. The Court then remanded the case to us “for further proceedings consistent with this opinion.” *Id.* at 2139.

In December 2015, the United States Patent and Trademark Office’s Patent Trial and Appeal Board (“PTAB”) held four of the six asserted patent claims—’520 patent claims 18 and 19, ’967 patent claim 15, and ’607 patent claim 15—unpatentable. *See WesternGeco LLC v. ION Geophysical Corp.*, 889 F.3d 1308, 1331 (Fed. Cir. 2018) (“*WesternGeco IPR*”). While the case was pending in the Supreme Court, we affirmed the PTAB’s unpatentability determination of these four claims. *Id.* Thus, the only asserted claims that remain are ’520 patent claim 23 and ’038 patent claim 14, and it is uncontested that only ’520 patent claim 23 may now support the lost profits award.

## DISCUSSION

On remand from the Supreme Court, two issues remain for us to resolve: (1) the impact of the intervening invalidation of four of the six asserted patent claims on the fully paid reasonable royalty award, and (2) the impact of the invalidation of the four claims on the lost profits award and ION’s argument (presented in its original appeal) that “*Panduit* cannot be satisfied because ION and [WesternGeco] do not compete in the marketplace.” ION Open. Br. 56.

### I. Reasonable Royalty Award

ION challenges the fully paid and satisfied reasonable royalty award based on subsequent invalidation of a

number of WesternGeco's asserted patent claims. See *WesternGeco IPR*, 889 F.3d at 1331. ION argues that the calculation of the reasonable royalty under *Georgia-Pacific Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970), would be affected by the invalidation of four of the six asserted patent claims, and therefore a new trial is required. For support, ION frames the decision in *Fresenius USA, Inc. v. Baxter International, Inc.*, 721 F.3d 1330 (Fed. Cir. 2013) as holding that a judgment cannot be final for purposes of intervening patent invalidations if any part of the litigation remains pending, and that here the lost profits award continues to be litigated and is not final.

We disagree. *Fresenius* only applies where a judgment is not final. *Id.* at 1340–41 & n.9; see also *Fresenius USA, Inc. v. Baxter Int'l, Inc.*, 733 F.3d 1369, 1371 (Fed. Cir. 2013) (Dyk, J., concurring in denial of rehearing en banc). To be sure, finality under *Fresenius* requires that “the litigation must be entirely concluded so that [the] cause of action [against the infringer] was merged into a final judgment . . . one that ends the litigation on the merits and leaves nothing for the court to do but execute the judgment.” 721 F.3d at 1341 (alterations in original) (quoting *Mendenhall v. Barber–Greene Co.*, 26 F.3d 1573, 1580 (Fed. Cir. 1994); see *ePlus, Inc. v. Lawson Software, Inc.*, 789 F.3d 1349, 1358 (Fed. Cir. 2015). But *Fresenius* made clear that it does not allow reopening of a satisfied and unappealable final judgment. 721 F.3d at 1340 (“As the Supreme Court’s decision in *Moffitt* made clear, “[i]t is a mistake to suppose . . . that . . . moneys recovered on judgments in suits . . . might be recovered back [after a patent is cancelled]. The title to these moneys does not depend upon the patent, but upon . . . the judgment of the court.” (alterations in original) (quoting *Moffitt v. Garr*, 66 U.S. 273, 283 (1861)); see *Pennsylvania v. Wheeling & Belmont Bridge Co.*, 59 U.S. 421, 431 (1855).

The particular facts of this case establish that the reasonable royalty award constitutes a fully satisfied and unappealable final judgment such that the subsequent invalidation of asserted patent claims does not support reopening. Here, ION and WesternGeco entered into a compromise agreement resolving all of the issues in the case except for the lost profits award. They stipulated to a “Final Judgment pursuant to Fed. R. Civ. P. 58,” and ION further manifested assent to the finality of the judgment as to the reasonable royalty award by not appealing the judgment and completing its payments under the agreement. The parties’ agreement was reflected in a joint motion filed in June 2017 that resolved all of the issues except for lost profits, although the IPR decisions holding that four of the six asserted patent claims were unpatentable had issued in December 2015. In these unique circumstances, it is clear that the reasonable royalty and enhanced damages awards were agreed to by the parties and subject to an unappealable final judgment, which was satisfied and paid in full by ION to WesternGeco. ION cannot now reopen the agreed and fully paid unappealable final judgment on the reasonable royalty based on the subsequent invalidation of a subset of asserted patent claims.

## II. Lost Profits

ION argues that, despite the Supreme Court’s decision in *WesternGeco III*, we should either hold that lost profits are not recoverable in this case or remand for a new trial.

First, ION contends that the district court erred when it denied ION’s renewed motion for judgment as a matter of law (“JMOL”) on the theory that WesternGeco is not entitled to lost profits based on a *Panduit* theory of but-for causation because ION and WesternGeco are not “direct competitors.” ION sells only devices and WesternGeco sells only surveys. According to ION, because West-

ernGeco and ION do not compete in the same market, lost profits in the surveys are not recoverable. For legal support, ION relies on a statement from *Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538 (Fed. Cir. 1995) (en banc) that “the patentee must show a reasonable probability that, ‘but for’ the infringement, it would have made the sales that were made *by the infringer.*” *Id.* at 1545 (emphasis added). ION argues that the emphasized language established a “direct competition” requirement between the patentee and alleged infringer. ION also relies on our decision in *BIC Leisure Products, Inc. v. Windsurfing International Inc.*, 1 F.3d 1214 (Fed. Cir. 1993), that “[t]he *Panduit* test . . . operates under an inherent assumption . . . that the patent owner and the infringer sell products sufficiently similar to compete against each other in the same market segment.” *Id.* at 1217–20.

We are not convinced. In context, the statement from *Rite-Hite* was addressing the requirement of “but-for” causation to recover lost profits, not imposing a requirement of direct competition between the patentee and alleged infringer that was neither at issue in the case nor further discussed in the opinion. *See* 56 F.3d at 1545. *BIC* clearly focused the inquiry on whether the patent owner’s and the infringer’s *products* are adequate substitutes for consumers in a particular market. 1 F.3d at 1219. WesternGeco’s and ION’s devices competed by performing the same types of functions for surveys. And there was sufficient evidence in the record for the jury to conclude that the products did compete—i.e., that consumers in the surveying market (oil companies) considered WesternGeco’s Q-Marine device and ION’s DigiFin device to be substitutes for their surveying needs (i.e., that the products competed in the same market). *See, e.g.*, J.A. 3791:1–23; 7006; 7135.

To be sure, the fact that ION sells only devices while WesternGeco only sells surveys may be relevant to the *computation* of lost profits. WesternGeco had two catego-

ries of lost profits: the profits attributable to providing the patented device and the profits attributable to providing other aspects of the surveys (e.g., the ship for towing the streamers). “[A]pportionment is required even for non-royalty forms of damages.” *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1226 (Fed. Cir. 2014). If the application of the *Panduit* factors does not result in the separation of profits attributable to the patented device and the profits attributable to providing other aspects of the surveys (e.g., the ship for towing the streamers), it appears that apportionment is necessary.<sup>2</sup>

This apportionment argument was not made in the supplemental briefing and was raised for the first time at oral argument. We conclude that the argument was waived on this appeal. However, if the district court orders a new trial on damages, ION may present arguments concerning apportionment at the new trial.

ION’s second argument is that the lost profits award cannot be sustained due to the intervening invalidation of four of the five asserted Bittleston patent claims. Here, the jury found all of the asserted claims to be infringed and made a single lost profits award. But four of the five claims relied on to support lost profits liability have since been eliminated, and now the only remaining claim that could support the lost profits award is ’520 patent claim 23, a dependent device claim. The jury instructions and verdict form did not instruct the jury to award damages based separately on infringement of each of the asserted claims, and the jury did not do so.

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<sup>2</sup> See *Mentor Graphics Corp. v. EVE-USA, Inc.*, 851 F.3d 1275, 1287–88 (Fed. Cir. 2017) (holding that “satisfaction of the *Panduit* factors satisfie[d] principles of apportionment” where, “on the undisputed facts of this record,” it was clear the plaintiff’s damages were “tied to the worth of its patented features”).

The jury could have rested its award on infringement of a now-invalidated claim, which cannot be sustained on review. The general rule is that when a “jury was told it could rely on any of two or more independent legal theories, one of which was defective,” the general verdict must be set aside. *i4i Ltd. P’ship v. Microsoft Corp.*, 598 F.3d 831, 849–50 (Fed. Cir. 2010) (citing *Walther v. Lone Star Gas Co.*, 952 F.2d 119, 126 (5th Cir. 1992)), *aff’d*, 564 U.S. 91 (2011); *see Northpoint Tech., Ltd. v. MDS Am., Inc.*, 413 F.3d 1301, 1311–12 (Fed. Cir. 2005); *United N.Y. & N.J. Sandy Hook Pilots Ass’n v. Halecki*, 358 U.S. 613, 619 (1959) (“[A] new trial will be required, for there is no way to know that the invalid [legal theory] was not the sole basis for the verdict.”); *Maryland v. Baldwin*, 112 U.S. 490, 493 (1884). We have recognized such a rule “[i]n a situation—such as this one—where the jury rendered a single verdict on damages, without breaking down the damages attributable to each patent,” and at least one of the patent claims was held to be defective. *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1310 (Fed. Cir. 2007) (citing *Memphis Cmty. Sch. Dist. v. Stachura*, 477 U.S. 299, 312 (1986)); *see Accentra, Inc. v. Staples, Inc.*, 500 F. App’x 922, 931 (Fed. Cir. 2013).

But we do not think a new trial is automatically required here if the jury must have found the technology covered by ’520 patent claim 23 was essential for performing the surveys. In other words, the award can be sustained if there was undisputed evidence that the technology covered by ’520 patent claim 23 was necessary to perform the surveys. In this area we apply a harmlessness analysis similar to our approach in the case of erroneous jury instructions. *See Avid Tech., Inc. v. Harmonic, Inc.*, 812 F.3d 1040, 1047 (Fed. Cir. 2016) (“[T]he error in the instruction governing this central dispute at trial would be harmless only if a reasonable jury would have been required by the evidence to find non-infringement even without the error.”).

WesternGeco argues that both parties' damages experts informed the jury that infringement of any one of the Bittleston patent claims would support the full amount of the lost profits award. It cites to ION's own expert, Mr. Gunderson. He testified that he "assumed that . . . the patents are not found to be invalid and that—that there is infringement that is occurring on at least one valid claim," "one of the base assumptions" for damages experts. WesternGeco Open. Suppl. Br. 15 (citing Trial Tr. at 4655:12–4656:3, *WesternGeco LLC v. ION Geophysical Corp.*, 953 F. Supp. 2d 731 (S.D. Tex. 2013), ECF No. 507). WesternGeco reads too much into this testimony. Mr. Gunderson was merely identifying the basic assumption of his patent damages calculations, and his testimony was directed to showing that WesternGeco was not entitled to the claimed lost profits for infringement based on *any* of the patents. *See, e.g.*, Trial Tr. at 4658, 4664, 4736, ECF No. 507. We do not interpret this testimony as supporting the theory that the entirety of the lost profits could be supported by infringement of any one Bittleston patent claim.

WesternGeco also relies on its own expert, Mr. Sims. He testified that Bittleston's lateral steering technology was required to perform surveys and that "my understanding is that the benefits would be attributable to each of the [Bittleston] patents because each of the patents would prohibit ION from being able to sell and supply and, therefore, the contractors from being able to use the lateral steering technology." WesternGeco Open. Suppl. Br. 14–15 (citing Trial Tr. at 2661:13–2662:6, ECF No. 497).

But it is clear that Sims was simply making an assumption rather than making an independent determination the technology represented in the claims was necessary to perform the surveys. *See, e.g.*, Trial Tr. at 2386:2–7, ECF No. 474. Sims was a damages expert. He disclaimed knowledge as to the technical aspects, and

explicitly relied on others to support his assumption that infringement of any one of the Bittleston patent claims would have been necessary to perform the 10 surveys at issue in the lost profits award. *See, e.g.*, Trial Tr. at 2378:24–25 (“I confirmed with Mr. Walker, that there was a requirement for lateral steering”), 2386, ECF No. 474; Trial Tr. at 2657–58, ECF No. 497. Sims testified that he relied on Mr. Walker for help in identifying surveys where the patented technology was required, but Mr. Walker disclaimed any knowledge as to the scope of the patents. *See* Trial Tr. at 1760–61, ECF No. 453. Thus, this testimony cannot support the jury award on lost profits.

WesternGeco has also not cited to any other specific testimony that infringement of ’520 patent claim 23 was necessary to perform the 10 surveys at issue. Instead, at oral argument, WesternGeco argued that the jury was informed generally that the lateral steering technology was required for the surveys at issue and that claim 23 covers part of that technology. But lateral steering technology was also reflected in the four other, now-invalid, asserted claims—’520 patent claims 18 and 19, ’967 patent claim 15, and ’607 patent claim 15. For example, now-invalid ’520 patent claim 18 recites:

An apparatus comprising:

- (a) an array of streamers each having a plurality of streamer positioning devices there along;
- (b) a control system configured to use a control mode selected from a feather angle mode, a turn control mode, a streamer separation mode, and two or more of these modes. ’520 Claim 18.

And now-invalid ’520 patent claim 19 recites:

The apparatus of claim 18 wherein the control mode is the feather angle mode, and the control-

ling comprises the control system attempting to keep each streamer in a straight line offset from a towing direction by a feather angle.

The only surviving claim, '520 patent claim 23, recites:

The apparatus of claim 18 wherein the towing comprises ending one pass, turning a towing vessel having the streamers attached thereto while throwing out the streamers before beginning another pass, with the control mode in the turn control mode during the turning and throwing out.

To sustain the lost profits award, the record must establish that there was no dispute that the technology covered by claim 23, independent of the technology covered by the now-invalid claims (e.g., '520 patent claim 18 and 19), was required to perform the surveys at issue. This determination must be made on the present record.

Because of inadequate briefing on this issue prior to oral argument,<sup>3</sup> and because the district court is in a better position to consider the issue in the first instance, we remand to the district court to determine whether a new trial on lost profit damages is required. *See Verizon*, 503 F.3d at 1310; *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1262 (Fed. Cir. 2014). The district court may deny a new trial on lost profits if, but only if, it concludes that WesternGeco established at trial with undisputed evidence that '520 patent claim 23 covers technology necessary to perform the surveys upon which the lost profits award is based.

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<sup>3</sup> The parties subsequently filed Fed. R. App. P. 28(j) letters addressing where in the record the jury was informed that the technology covered by '520 patent claim 23 was necessary to perform the surveys at issue.

## CONCLUSION

For the foregoing reasons, we reject ION's challenge to the reasonable royalty award and remand to the district court for further proceedings as to the lost profits. We also reinstate sections I, II, and IV of our decision in *WesternGeco I* and sections I and II of our decision in *WesternGeco II*, which were not affected by either the initial vacatur and remand from the Supreme Court, 136 S. Ct. 2486 (2016), or the Supreme Court's subsequent decision in *WesternGeco III*.

**AFFIRMED-IN-PART, VACATED-IN-PART, AND  
REMANDED**

## COSTS

No costs.