

NOTE: This disposition is nonprecedential.

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

THE DOW CHEMICAL COMPANY,
Plaintiff-Appellee,

v.

**NOVA CHEMICALS CORPORATION (CANADA)
AND NOVA CHEMICALS INC. (DELAWARE),**
Defendants-Appellants.

2010-1526

Appeal from the United States District Court for the District of Delaware in case no. 05-CV-0737, Judge Leonard P. Stark.

Decided: January 24, 2012

HENRY J. ROPER, Jenner & Block, LLP, of Chicago, Illinois, argued for plaintiff-appellee. With him on the brief were AARON A. BARLOW and PAUL D. MARGOLIS. Of counsel on the brief were RAYMOND N. NIMROD, Quinn Emanuel Urquhart & Sullivan, of New York, New York.

DONALD R. DUNNER, Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, of Washington, DC, argued for defendants-appellants. With him on the brief were DARREL C. KARL and MARK J. FELDSTEIN. Of counsel on the brief were H. WOODRUFF TURNER and DAVID R. COHEN, K&L Gates, LLP, of Pittsburgh, Pennsylvania. Of counsel were RONALD A. BLEEKER, FORD F. FARABOW, JR., MARTIN I. FUCHS and JOANN M. NETH.

Before LINN, PROST, and REYNA, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge* PROST.

Dissenting opinion filed by *Circuit Judge* REYNA.

PROST, *Circuit Judge*.

Nova Chemicals Corporation (“Nova”) appeals from the district court’s denial of its motion for judgment as a matter of law. Nova argues that the district court should have, in the first place, found that the Dow Chemical Company (“Dow”) lacked standing to bring this suit. Nova also argues that the district court should have set aside a jury verdict of infringement in Dow’s favor and instead found that the patents asserted by Dow are invalid for indefiniteness and lack of an adequate written description and are not infringed. Because we see no error in the district court’s standing and invalidity analyses, and because substantial evidence supports the jury’s infringement finding, we *affirm*.

BACKGROUND

Dow brought this suit to enforce U.S. Patent No. 5,847,053 (“053 patent”) and U.S. Patent No. 6,111,023 (“023 patent”) (collectively, “the patents in suit”). The patents in suit claim a new kind of plastic that is stronger

than conventional plastics, which allows, for example, using thinner films (less plastic) for the same purpose. Dow markets its invention as ELITE. Nova's competing product is named SURPASS. Dow claimed in the district court that SURPASS infringes the patents in suit. Nova put on a three-part defense. First, it argued that Dow lacked standing to enforce the patents in suit. Second, it argued that the patents in suit were invalid for indefiniteness and lack of an adequate written description.¹ Third, it argued that SURPASS did not infringe the patents in suit.

Nova did not prevail on any of its arguments in the district court. The district court held a bench trial to resolve the standing issue and found that Dow had standing to enforce the patents in suit. *Dow Chem. Co. v. Nova Chems. Corp.*, 726 F. Supp. 2d 459, 463-64 (D. Del. 2010). With respect to Nova's indefiniteness argument, the district court found that the patents were not indefinite as a matter of law and construed the claims. The district court nonetheless allowed the jury to consider whether the patents were invalid for indefiniteness and lack of an adequate written description. The infringement issue was also submitted to the jury. In the end, the jury found the patents in suit valid and infringed and awarded approximately \$61.7 million in damages to Dow for lost profits and reasonable royalties. The district court subsequently denied Nova's renewed motion for judgment as a matter of law and entered judgment in line with the jury's verdict. This appeal ensued. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

¹ Nova also argued that the patents in suit were invalid for obviousness. The jury found that the patents were not obvious. Nova does not appeal that determination.

ANALYSIS

Nova makes three main arguments on appeal. First, it argues that Dow lacks standing to enforce the patents in suit. Second, it argues that the patents in suit are invalid for indefiniteness and lack of an adequate written description. Third, it argues that the jury's verdict of infringement is not supported by substantial evidence. We address each argument in turn below.

A. STANDING

The standing issue concerns the ownership of the patents in suit. There is no dispute that Dow is indeed the original assignee of the patents in suit and record title holder at the U. S. Patent and Trademark Office ("PTO"). Therefore Dow is the presumed owner of the patents in suit. *See SiRF Tech., Inc. v. Int'l Trade Comm'n*, 601 F.3d 1319, 1327-28 (Fed. Cir. 2010) ("The recording of an assignment with the PTO is not a determination as to the validity of the assignment. However, we think that it creates a presumption of validity as to the assignment and places the burden to rebut such a showing on one challenging the assignment." (citation omitted)). Effective on January 1, 2002, however, Dow and its holding company, Dow Global Technologies, Inc. ("DGTI") entered into a "Contribution Agreement" (or "the agreement") according to which a large share of Dow's intellectual property rights was transferred to DGTI. Apparently, the Contribution Agreement was intended to generate certain tax benefits for Dow. Nova argues that the patents in suit were among the intellectual property rights that were transferred to DGTI under the Contribution Agreement. As a result, according to Nova, Dow does not have standing to enforce the patents in suit. *Cf. Arachnid, Inc. v. Merit Indus., Inc.*, 939 F.2d 1574, 1579 (Fed. Cir. 1991).

Dow disagrees, arguing that it held on to the patents in suit so that it could enforce them in a suit such as this.

After holding a bench trial, the district court determined that the patents in suit were never transferred to DGTI. In particular, the court found that the Contribution Agreement was unambiguous in that it incorporated a document—entitled Schedule A—that contained a list of all the patents that were transferred to DGTI. The court heard and credited testimony from a Dow employee who was in charge of preparing and maintaining Schedule A, and she corroborated Dow’s assertion that the patents in suit never appeared in Schedule A. Based on these findings, the court found that Dow had met its burden of establishing the ownership of the patents in suit. And, because the court found that the clear terms of the agreement controlled, it declined to evaluate the extrinsic evidence that Nova suggested defeated Dow’s standing. The court accordingly denied Nova’s request to dismiss the suit for lack of standing. For the reasons set forth below, we agree with the district court’s determinations.

Our standing analysis presents an issue of contract interpretation: whether Dow transferred the patents in suit to DGTI under the Contribution Agreement. Two sections of the Contribution Agreement (sections 2.01 and 1.07) are particularly important to our analysis. Section 2.01 of the agreement states,

2.01 *Transfer of Patent Rights and Technology.* Effective on the Transfer date, [Dow] hereby conveys, transfers, assigns and delivers to DGTI, and DGTI hereby accepts from [Dow] as an additional contribution to DGTI’s capital, all of [Dow’s] right and title to and interest in the Patent Rights,

Technology and Work Processes, which rights are owned or controlled by [Dow] on the Transfer Date or thereafter.

J.A. 5041-42. This section essentially provides that Dow transferred its “Patent Rights” to DGTI. We must therefore determine whether the patents in suit fit within the scope of “Patent Rights.” That brings us to section 1.07, which defines “Patent Rights” in just two sentences:

1.07 “Patent Rights” means any and all patents and applications for patents of any kind, filed with and/or granted by a governmental body of the United States or any other country . . . which are owned solely or controlled by [Dow] on the Transfer Date or thereafter, that [Dow] is able to assign to DGTI without the consent of or accounting to a Third Party or Affiliated Company, without diminishing the royalties paid or payable by or otherwise materially affecting the obligations of such Third Party or Affiliated Company with respect to such Patent Rights, and without resulting in a loss of rights. The parties shall provide a schedule of Patent Rights as Schedule A to this Agreement, within ninety (90) days of the Effective Date, and shall provide subsequent supplements thereto from time to time during the Term.

J.A. 5040.

We begin our analysis of the scope of Patent Rights by noting that the first sentence in section 1.07 is not par-

ticularly helpful in determining whether the patents in suit were transferred to DGTI. That sentence describes that Patent Rights excludes those patents that cannot be transferred “without resulting in a loss of rights.”² This sentence cannot be interpreted literally because hardly anything can be transferred “without resulting in [some] loss of rights.” Nova and Dow thus each offer their own theory of what this “loss of rights” exception entails. Nova suggests that “loss of rights” only refers to loss of standing in any litigation that was pending when the agreement took effect. According to Nova, therefore, the exception was meant to ensure that any patents that were then involved in litigation remained with Dow. And because the patents in suit were not involved in litigation when the agreement took effect, Nova argues, they were necessarily transferred to DGTI. Dow counters that the “loss of rights” exception was meant not only to protect its standing in then-pending litigation, but also to preserve its ability to recoup lost profits for those patents that would be asserted in future litigation (such as the patents in suit). Neither one of these theories is anchored in the text of the Contribution Agreement.

We are not at liberty, however, to detach our interpretive analysis from the four-corners of the contract at the mere suggestion that one phrase in the contract, viewed in isolation, is not readily amenable to literal interpretation. Rather, we “must give effect to all terms of the instrument, must read the instrument as a whole, and, if possible, reconcile all the provisions of the instrument.” *Elliot Assocs. v. Avatex Corp.*, 715 A.2d 843, 854 (Del.

² There is no dispute that other than the “loss of rights” limitation, the remaining language of the first sentence of section 1.07 is immaterial to the standing issue presented here. Therefore, we only focus on the phrase “loss of rights.”

1998); *see generally*, 11 Williston on Contracts § 32:5 (4th ed. 2010). As we explain below, to the extent that the phrase “loss of rights” may require interpretation, it does not give us license to open the door to extrinsic evidence (and Dow’s and Nova’s subjective understanding of the term, for that matter) because the rest of section 2.01 and the agreement as a whole reveal that the patents in suit are not within the scope of Patent Rights.

Unlike the first sentence, the second sentence of section 1.07 makes it abundantly clear that Dow and DGTI intended Schedule A to include a list of all of the transferred patents (among other things).³ In line with our obligation to resolve ambiguities in favor of a harmonious interpretation, we must hold that whatever the term “loss of rights” implies, it cannot serve to wipe out the clear reference to Schedule A. Moreover, “[s]pecific language in a contract controls over general language, and where specific and general provisions conflict, the specific provision ordinarily qualifies the meaning of the general one.” *DCV Holdings, Inc. v. ConAgra, Inc.*, 889 A.2d 954, 961 (Del. 2005). Here, the “loss of rights” phrase is part of a broad exclusionary definition; whereas the reference to Schedule A is inclusionary and, indeed, quite specific. That gives us yet another reason to believe that the specific reference to Schedule A manifests the objective intent of the parties to the agreement and is thus controlling here. As we see it, well-established principles of contract interpretation command us to hold that for the purpose of the standing issue that we are called on to decide, the scope of Patent Rights is not ambiguous.

³ As we explain below, section 9.07 of the Contribution Agreement incorporates Schedule A into the agreement.

Because the patents in suit do not appear in Schedule A, they were not transferred to DGTI.

Nova urges us to effectively read Schedule A out of the Contribution Agreement. It posits that section 9.07 of the Contribution Agreement reveals that Schedule A does not matter at all. To support this argument, Nova selectively recites a portion of section 9.07, which states, “omission of an item from one or more schedules shall not give rise to an implication that DGTI has rights less than those otherwise provided for in this Agreement.” Appellant Br. 11 (quoting J.A. 5046). Based on this snippet of section 9.07, Nova concludes that the contents of the schedules are not controlling. We disagree. Section 9.07 provides,

9.07 *Schedules.* Each of the schedules referenced within this Agreement, prospectively including any updates or amendments thereto, is deemed incorporated herein by reference. While care shall be taken in the provision of the schedules, it is recognized that inadvertent errors may occur. Accordingly, inclusion of an item on one or more schedules shall not give rise to rights or an implication that DGTI has rights greater than those expressly provided for in this Agreement. Likewise, omission of an item from one or more schedules shall not give rise to an implication that DGTI has rights less than those otherwise provided for in this Agreement. Upon their mutual recognition of an error in one or more schedules, the parties will amend the erroneous item(s) on the affected schedule(s).

J. A. 5046. As it appears in the very first sentence, this section of the contract is meant to incorporate the schedules into the agreement. That alone gives us pause with regards to Nova's argument, for it would seem odd if the parties intended to incorporate the schedules into the agreement and yet declare them meaningless in the very same section of the agreement. And of course, the remaining language of section 9.07 confirms that the schedules are not meaningless. Section 9.07 provides that the schedules carry meaning unless the parties (Dow and DGTI) agree that a mistake or inadvertent omission has been made. Far from supporting Nova's interpretation—which uses section 9.07 to wipe out Schedule A—section 9.07 reveals that Dow and DGTI intended the schedules to be of great significance, so much so that they devised a contingency plan to address inadvertent mistakes that might occur during their creation and maintenance. And, of course, even Nova does not seriously contend that any mistake or inadvertent omission has occurred with respect to Schedule A and the patents in suit. Thus, section 9.07 does not provide any basis for us to look beyond the four-corners of the contract.

Nor do we see any basis for Nova's argument that Schedule A is somehow untrustworthy. Kathleen Maxwell, a paralegal at Dow, testified that she was in charge of preparing and maintaining the schedules to the Contribution Agreement from 2002 to September, 2005, three months before this litigation began. Maxwell testified that she prepared Schedule A in 2002 by looking up the patents owned by DGTI in Dow's Intellectual Property Management System ("IPMS"), which is "a database that holds patent records and agreement records" and is

“managed by [Dow’s] Patent Department.”⁴ J. A. 7111. According to Maxwell, she updated Schedule A in 2004 in the same way, by looking up the patents in IPMS. From 2002 to 2005, Maxwell recalled, many patents were added to Schedule A; indeed, the number of patents included in Schedule A rose from approximately 5,600 to about 7,800. And yet, here is what Maxwell had to say about whether anything was ever taken out of Schedule A:

Q. And do you ever recall removing any patents from the patent rights schedule?

A. No, I do not.

Q. And do you ever recall anyone else removing any patents from the patent rights schedule?

A. No, I do not.

Q. Do you ever recall anybody asking you to remove patents from the patent rights schedule?

A. No, I do not.

⁴ Maxwell mistakenly entitled the Patent Rights schedule as “Schedule B.” The district court found that the typographical error did not have any substantive effect, and therefore, we see no reason to restate the analysis here. At any rate, we agree with the district court’s finding in this respect as well.

J. A. 7111.⁵ Finally, Maxwell testified that the patents in suit did not appear in Schedule A while she was in charge, thus dispelling any doubt that Dow might have erased the patents in suit from Schedule A in anticipation of litigation between September and December of 2005 (when this suit was filed). The district court expressly found that Maxwell was credible, *Dow Chem.*, 726 F. Supp. 2d at 463, and this aspect of the district court's decision is virtually unassailable on appeal. Nova's suggestion that Schedule A is somehow unreliable, therefore, cannot be squared with the record before us.⁶

⁵ The dissent argues that Schedule A cannot control because under section 2.01, the transfer of Patent Rights to DGTI was immediate, whereas Schedule A was not to be prepared until ninety days after the Contribution Agreement went into effect. Dissenting Op. at 11-12. But section 2.01 itself states that Patent Rights may include "rights [that] are owned or controlled by [Dow] on the Transfer Date or *thereafter*." J.A. at 5042 (emphasis added). Moreover, section 9.07 also demonstrates that Dow and DGTI allowed flexibility in editing the incorporated schedules (We assume, in line with Kathleen Maxwell's testimony, that any editing would effect transfer in only one direction, from Dow to DGTI.). Thus, unlike the dissent, we do not understand the "hereby conveys . . ." phrase in section 2.01 to undermine the significance of Schedule A.

⁶ The Contribution Agreement also incorporates a document entitled Schedule D, which was to contain a list of "Excluded Intangible Assets." J.A. 5040, ¶ 1.03. Dow and Nova dispute the content of Schedule D, and each hypothesizes how the content of Schedule D should affect the standing analysis. There is nothing in the Contribution Agreement, however, that suggests Schedule D is related to the scope of Patent Rights, and so we see no need to explore the issue any further.

In sum, the terms of the Contribution Agreement unambiguously show that the patents in suit were not transferred to DGTI. Moreover, Nova's arguments with respect to the relevance and authenticity of Schedule A are unfounded. Because the contract terms are clear, we may not look beyond them to analyze Dow's ownership of the patents in suit. Nova failed to overcome the presumption of title created by the record of assignment filed with the PTO. The district court correctly determined that Dow has standing to enforce the patents in suit.⁷

⁷ As we explained, unlike the dissent, we believe that the terms of the Contribution Agreement are not ambiguous. But even if we were to look beyond the four-corners of the contract, we would find no basis for the dissent's suggestion that the extrinsic evidence counsels reversing the district court's standing determination. We note that the cornerstone of the dissent's analysis of the extrinsic evidence is a chain of Dow's intra-office e-mail communications. The content of the e-mails is disputed, however, and, as we read them, they do not conclusively establish that Dow transferred the patents in suit. The dissent's interpretation of the e-mails is based mainly on one specific e-mail, in which one of Dow's attorneys (Mr. Bruce Kanuch) suggests that the patents that were then in litigation remain with Dow. Dissenting Op. at 17-18 (citing J.A. 5663). The dissent infers from this one e-mail that the remaining patents were transferred. Dissenting Op. at 18-19. But the e-mail itself says nothing about what should happen to the patents in suit, and in any event, there is no evidence that the suggestion in this one e-mail was ever adopted by or incorporated into the Contribution Agreement. It is true that the next e-mail in the chain states that "the issue" was addressed by adding the phrase "loss of rights" to the contribution Agreement, J.A. 5663, but this subsequent e-mail does not suggest that the phrase "loss of rights" was limited to a loss of standing in then-pending litigation. On the contrary, it is entirely plausible (and in our view, likely) that "the issue" addressed by the addition of the phrase "loss of right" was

B. INDEFINITENESS

The district court also correctly found that the patents in suit were not indefinite.⁸ A patent specification must “conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” 35 U.S.C. § 112, ¶ 2. This requirement is satisfied where “one skilled in the art would understand the bounds of the claim when read in light of the specification” *Exxon Research & Eng’g*

Dow’s “legal standing to *bring* and/or maintain [suit].” *Id.* (emphasis added). Therefore, as the record before us stands, the e-mails do not shed much light onto the meaning of “loss of rights.” We also disagree with the dissent’s choice to foray into analyzing Dow’s tax incentives in structuring the Contribution Agreement. In our view, the record does not reveal what, if any, tax benefits Dow received from the purported transfer of the patents in suit. Even if the evidence did reveal some tax benefits, however, it will not tell us much about the parties’ objective intent in entering into the Contribution Agreement when the agreement took effect. Finally, even if we were in a position to consider the totality of the extrinsic evidence (including the e-mails and the alleged tax incentives) for the first time on appeal, we would find nothing more compelling in the record than Schedule A—which at the very least should serve as a telling piece of extrinsic evidence. In sum, we respectfully disagree both with the dissent’s decision to take on the analysis of the extrinsic evidence in the first place, and also with regard to the results.

⁸ Because the district court provided a construction to the jury, which was the only basis upon which the jury could reach the conclusion it did, we do not need to reach the question of whether it was error to submit the question of indefiniteness to the jury: Even had the district court not done so, the outcome would be no different.

Co. v. United States, 265 F.3d 1371, 1375 (Fed. Cir. 2001). A claim is not indefinite merely because it is difficult to construe. *Id.* To be indefinite, a claim term must be such that “no narrowing construction can properly be adopted” to interpret the claim. *Id.* Indefiniteness is a question of law that this court reviews de novo. *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 655 F.3d 1364, 1373 (Fed. Cir. 2011); *Bancorp Servs., LLC v. Hartford Life Ins. Co.*, 359 F.3d 1367, 1371 (Fed. Cir. 2004); *Exxon*, 265 F.3d at 1376.

The patents in suit are directed at polymer compositions. The only asserted independent claim of the '053 patent is representative claim 6, which recites,

6. An ethylene polymer composition comprising

(A) from about 10 percent (by weight of the total composition) to about 95 percent (by weight of the total composition) of at least one homogeneously branched linear ethylene/a-olefin interpolymer having:

(i) a density from about 0.89 grams/cubic centimeter (g/cm^3) to about 0.935 g/cm^3 ,

(ii) a molecular weight distribution (MW/MN) from about 1.8 to about 2.8,

(iii) a melt index (I2) from about 0.001 grams/10 minutes (g/10 min) to about 10 g/10 min,

(iv) no high density fraction,

- (v) a single melting peak as measured using differential scanning calorimetry, and
 - (vi) a slope of strain hardening coefficient greater than or equal to 1.3; and
- (B) from about 5 percent (by weight of the total composition) to about 90 percent (by weight of the total composition) of at least one heterogeneously branched linear ethylene polymer having a density from about 0.93 g/cm³ to about 0.965 g/cm³.

'053 patent col.16 ll.4-26 (emphasis added). Claim 1, the only independent claim of the '023 patent, claims a different ethylene polymer, but it too recites a particular component with “a slope of strain hardening coefficient greater than or equal to 1.3.”⁹ '023 patent col.16 ll.30-31.

It is the “slope of strain hardening” (“SHC”) coefficient that is at the center of Nova’s indefiniteness argument. The SHC coefficient is a new Dow construct, not previously known in the art, defined by the patents in suit as the slope of a material’s strain hardening multiplied by the melt index raised to the 0.25 power.¹⁰ '053 patent col.6 ll.45-50. The patents in suit teach that in order to

⁹ Although the patents in suit disclose different polymer combinations, the differences between them are not material to our analysis. For the sake of convenience, we quote language from the '053 patent throughout our opinion but still use the phrase “patents in suit” to make clear that our analysis applies to the asserted claims of the '023 patent as well.

¹⁰ SHC = (slope of stain hardening) * (I₂)^{0.25}. '053 patent col.6 l.47.

determine a material's slope of strain hardening, one must first obtain a "stress/strain curve," which results when the tensile properties of the test sample is tested on a tensile tester. *Id.* at col.6 ll.24-29. The slope of the strain hardening is then "calculated from the resulting tensile curve by drawing a line parallel to the strain hardening region of the resulting stress/strain curve." *Id.* at col.6 ll.27-29.

Nova argues the patents in suit do not adequately teach how one must determine the value of the SHC coefficient for the claimed polymer because 1) the patents in suit do not contain a schematic depiction of the tensile curve of the claimed material, and 2) the patents in suit do not disclose the suitable measurement units for measuring the value of the SHC coefficient. Based on all the evidence that is presented to us in the record, however, we agree with the district court's determination that the patents in suit are not indefinite.

Nova first argues that the patents in suit do not include a schematic example of the strain/stress curve, and posits that the patents in suit are indefinite as a result. In particular, Nova suggests that without the aid of a drawing, one of ordinary skill in the art would not know at what part along the stress/strain curve the slope must be measured. We disagree. It is true that the patents in suit state that "FIG. 1 shows the various stages of the stress/strain curve used to calculate the slope of strain hardening," and yet the patents in suit do not, for whatever reason, include the promised drawing. '053 patent col.6 ll.40-41. But that does not suggest that one of ordinary skill in the art would not be able to determine the slope of the strain hardening for the SHC coefficient. Nova's own expert witness, Dr. Fuller, agreed with Dow's attorney that a typical stress/strain curve was "very, very

well known [to a] person of ordinary skill in the art . . . who worked with semi-crystalline polymers and polyethylene,” and that one of ordinary skill in the art would come across similar curves in relevant textbooks. J.A. 3564-65. The mere fact that Figure 1 was missing from the patents in suit, therefore, does not render them indefinite.¹¹ And more importantly, Dow established that one of ordinary skill in the art would know at which particular part along the curve the slope of the stress/strain curve should be measured. The patents in suit teach that strain hardening occurs, or is reflected, at a specific region of the stress/strain curve:

The strain hardening occurs after the sample has pulled its initial load ((i.e., stress) usually with little or no elongation during the initial load) and after the same has gone through a slight drawing stage (usually with little or no increase in load, but with increasing elongation (i.e., strain)). In the strain hardening region, the load and the elongation of the sample both continue to increase. The load increases in the strain hardening region at a much lower rate than during the initial load region and the elongation also increase, again at a rate lower than that experienced in the drawing region.

'053 patent col.6 ll.30-39. In other words, although there are multiple “regions” on a stress/strain curve, only one

¹¹ We note that the patents in suit merely state that Figure 1 was intended to depict “the various stages of the stress/strain curve,” but they do not necessarily suggest that Figure 1 would depict the specific point along the curve at which the slope should be measured. '053 patent col.6 l.40.

region on the curve is the “strain hardening region,” where the slope of the curve must be measured.

Nova objects that the strain hardening region is itself a curve, not a straight line. It points to the testimony of Dow’s own expert witness, Dr. Hsiao, who indeed admitted that most strain hardening data samples gathered from the stress/strain test reveal some curvature (when graphed), and that curves do not have a single slope. Nova thus argues that the patents in suit are indefinite. We disagree. Dr. Hsiao explained that one of ordinary skill in the art would understand that during the initial portion of the strain hardening region, there is a mixture of drawing effects and strain hardening effects. During the draw region, the material deforms without increasing the load. Beyond that point, the test sample hardens, and, eventually, it breaks. According to Dr. Hsiao, one of ordinary skill in the art would know that the slope of the hardening curve would have to be measured at its maximum value, which reflects the best tensile performance of the material.

Nova further notes that “Dow’s internal files and later disclosures contain multiple definitions for where the slope of strain hardening for SHC should be determined.” Appellant Br. 25. In particular, Nova points to some of Dow’s internal documents that reveal Dow indeed experimented with four different methods to measure the slope of the strain hardening curve. Nova argues, accordingly, that there is no single method for one of ordinary skill in the art to measure the slope, and that the failure of the patents in suit to identify one distinct method renders them indefinite. Again, we disagree. To begin with, whether Dow used various methods to measure the slope of the strain hardening curve is of questionable significance because there is no evidence to suggest that

the experimentations necessarily involved practicing the claimed method. And in any event, “[t]he claims are not indefinite even if some experimentation is required to determine the exact [scope of the claims].” *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1336 (Fed. Cir. 2010), *cert. denied*, 131 S. Ct. 3020 (2011); *see also Exxon*, 265 F.3d at 1379 (“Provided that the claims are enabled, and no undue experimentation is required, the fact that some experimentation may be necessary to determine the scope of the claims does not render the claims indefinite.”). We already noted, however, that Dow has established that one of ordinary skill in the art would know that the maximum slope of the stress/strain curve was the appropriate value for calculating the SHC coefficient. At best, Nova has shown that other regions in the slope may also be measured. But that does not necessarily suggest that one of ordinary skill in the art would not realize that the maximum slope leads to the most appropriate reading of the strain hardening slope for the purposes of the patents in suit, or that it would be too difficult for one of ordinary skill in the art to make a few measurements and determine, based on the result, what the scope of the invention is. In other words, the mere fact that the slope may be measured in more than one way does not make the claims of the patent invalid. *See Exxon*, 265 F.3d at 1375.

Next, Nova argues that the patents in suit are indefinite because they do not disclose the unit of measurement for the SHC coefficient. It is true that the patents in suit do not specify any particular unit for the SHC coefficient. But the specification teaches that the stress/strain test is conducted with an Instron Tensile Tester “at a crosshead speed of 1 inch/minute.” ’053 patent col.6 l.26. Experts for Dow and Nova agreed that the user manual for the Instron Tensile Tester, available when the patents in suit

were filed, specified that when the crosshead speed is inches per minute, the units for load and elongation are pounds and inches (English units), unless expressly specified otherwise. And, the manual also showed that when the user conducts the stress/strain test using crosshead speeds in inches per minute, the output measurement is reported in English units. Consistent with these instructions, Table 3 of the patents in suit also reports the output of the Instron Tensile Tester (e.g., yield, tensile strength, and toughness) in English units. Because the specification (directly in Table 3 and indirectly via the Instron manuals) teaches that all measurement units that are relevant to the determination of the slope of strain hardening are made in English units, one of ordinary skill on the art would also realize that the slope of the strain hardening should be determined in English units.

Finally, Nova argues that one of ordinary skill in the art would not realize that the slope of the strain hardening region should be measured in English units because the equation for the SHC coefficient also incorporates the melting index, and the patents in suit report the melting index in metric, not English, units. *See* '053 patent col.6 l.47. We disagree. Nova has not presented any evidence that shows an equation, for a proprietary coefficient indeed, may not combine variables measured in different measurement systems. And in any event, the test for indefiniteness is not whether the scope of the patent claims is easy to determine, but whether “the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree” *Exxon*, 265 F.3d at 1375. As we have already explained, one of ordinary skill in the art would realize that the slope of the strain hardening, as defined in the patents in suit, should be meas-

ured and reported in English units. Therefore, Nova's final argument regarding indefiniteness fails. In sum, because one of skill in the art would understand the bounds of the claims, the district court correctly rejected Nova's indefiniteness challenge.¹²

C. INFRINGEMENT

Nova's final challenge to the district court's denial of its motion for judgment as a matter of law targets the jury's finding of infringement. We review the district court's denial of Nova's motion for judgment as a matter of law under the standard of review of the regional circuit. *ACCO Brands, Inc. v. ABA Locks Mfr. Co.*, 501 F.3d 1307, 1311 (Fed. Cir. 2007). The Third Circuit reviews de novo a district court's denial of judgment as a matter of law. *McKenna v. City of Philadelphia*, 649 F.3d 171, 176 (3d Cir. 2011). Infringement is a question of fact, and we review the jury's verdict of infringement for substantial evidence. *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1202 (Fed. Cir. 2010).

Here, the jury's verdict of infringement is supported by substantial evidence. As we already stated, the plastic claimed in the patents in suit contains two components, Component A and Component B. There is no dispute that Nova's accused product contains Component A. The infringement dispute revolves around one particular

¹² Nova also argues, essentially based on the same contentions made in its indefiniteness appeal, that the patents in suit do not meet the written description requirement of 35 U.S.C. § 112, ¶ 1. Based on our analysis above, we also reject Nova's written description arguments.

limitation in the composition of Component B.¹³ Specifically, Nova argues that Dow did not present sufficient evidence that showed the high density component of Nova's accused product, referred to as "HD fraction," is "heterogeneously branched," as required by the patents in suit. '053 patent col.16 l.24. We disagree. Dr. Soares, Dow's expert witness, testified that he conducted two different analyses to determine whether Nova's HD fraction is heterogeneously branched. First, Dr. Soares stated that he studied Nova's manufacturing process, including Nova's own modeling of its reactor, and explained that due to the non-uniformity of the reactor zone (the ratio between the ethylene and octane in various areas surrounding the area in the reactor where the HD fraction is formed), molecules with different amounts of branching are produced. In other words, he explained, the HD fraction is heterogeneously branched. Second, Dr. Soares testified that he performed a "cross fractionation" analysis, which also revealed that the HD fraction is heterogeneously branched.

Nova argues that whether Component B is "heterogeneously branched" is not relevant because the district court construed the term "heterogeneously branched" as having "branching different from and broader than the homogeneously branched component." Appellant Br. 63; *see also* J.A. 110. Nova argues, rather, that in order to evaluate infringement, one must "compare the *relative* distribution exhibited by Nova's [HD Fraction]." Appellant Br. 64. We are skeptical of the logic of this hyper-technical analysis because it implies that the district

¹³ The remaining limitations of the patents in suit that are relevant to Component B are satisfied by the high density component of Nova's accused product. We do not address them here.

court erred in its claim construction—which is not challenged on appeal. But in any event, Dr. Soares testified that the particular characteristics of the mixture of ethylene and octane in Nova’s reactors results in “different branching levels” or “broadening of the distribution [of branching]” in the HD fraction. J.A. 2078-79. We are persuaded that Dr. Soares’s testimony gave the jury sufficient justification to find that the accused polymer has “branching different from and broader than [the] homogeneously branched [component].” J.A. 110. Therefore, whether the infringement analysis is performed with attention to the phrase “heterogeneously branched” or by focusing on the specific language of the district court’s claim construction, it leads to the same result. Substantial evidence supports the jury’s finding of infringement in Dow’s favor.

CONCLUSION

For the foregoing reasons, we affirm the judgment entered against Nova.

AFFIRMED

NOTE: This disposition is nonprecedential.

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

THE DOW CHEMICAL COMPANY,
Plaintiff-Appellee,

v.

**NOVA CHEMICALS CORPORATION (CANADA)
AND NOVA CHEMICALS INC. (DELAWARE),**
Defendants-Appellants.

2010-1526

Appeal from the United States District Court for the District of Delaware in case no. 05-CV-0737, Judge Leonard P. Stark.

REYNA, *Circuit Judge*, dissenting.

This patent infringement case involves a substantial question of standing based on an agreement relating to the ownership of the patents-in-suit. In order to achieve certain tax and business benefits, Dow transferred essentially its entire patent portfolio to its holding company pursuant to an agreement entered into in 2002. Dow sued Nova in 2005 for infringement of the patents-in-suit, which were ostensibly transferred to Dow's holding company under the 2002 agreement. The 2002 agreement and related documents, however, were not produced in

litigation by Dow until July 2009, well after discovery had closed. After reviewing the documents, Nova moved to dismiss the case on grounds that Dow lacked standing because it was not the owner of the patents-in-suit when the lawsuit was initiated. The district court opted not to have a hearing on the standing issue until after a jury trial and verdict on the merits of the infringement and invalidity claims. Ultimately, the district court found that the patents-in-suit had never been transferred by Dow to its holding company via the 2002 agreement and, concluding that Dow therefore had standing, entered final judgment on the verdict against Nova.

Because I conclude that the 2002 agreement in fact did transfer the patents-in-suit to Dow's holding company, and that standing did not exist at the time the complaint was filed, I would reverse the district court and dismiss the case without prejudice. I would not reach the underlying merits of the judgment that the asserted claims of the patents-in-suit were valid and infringed. I respectfully dissent.

I. BACKGROUND

A. The Agreements Between Dow and DGTI

The Dow Chemical Company ("Dow" or "TDCC") is the original assignee of U.S. Patent Nos. 5,847,053 and 6,111,023 (the "patents-in-suit"), which are directed to polymer compositions for a stronger form of polyethylene. Dow later established Dow Global Technologies, Inc. ("DGTI") as a holding company and entered into a Contribution Agreement with DGTI effective January 1, 2002. The recitals of the Contribution Agreement explained that Dow intended to "contribute to DGTI . . . all TDCC Patent Rights . . . for the licensing thereof by DGTI to TDCC . . ." A5039. As explained in more detail below, this arrangement afforded certain tax advantages to Dow.

All of Dow's "Patent Rights" were broadly assigned to DGTI under Section 2.01 of the Contribution Agreement, which provided that "TDCC hereby conveys, transfers, assigns and delivers to DGTI . . . *all* of TDCC's right and title to and interest in the Patent Rights, Technology and Work Processes, which rights are owned or controlled by TDCC on the Transfer Date" A5041-42 (emphasis added). Central to this appeal is the question of whether the patents-in-suit were among the transferred "Patent Rights," which were defined in Section 1.07 as follows:

"Patent Rights" means any and all patents and applications for patents of any kind, filed with or granted by a governmental body of the United States or any other country . . . which are owned solely or controlled by TDCC on the Transfer Date or thereafter . . . that TDCC is able to assign to DGTI without the consent of or accounting to a Third Party or Affiliated Company, without diminishing the royalties paid or payable by or otherwise materially affecting the obligations of such Third Party or Affiliated Company with respect to such Patent Rights, and without resulting in a loss of rights. The parties shall provide a schedule of Patent Rights as Schedule A to this Agreement, within ninety (90) days of the Effective Date, and shall provide subsequent supplements thereto from time to time during the Term.

A5040. This definition and the parties' understanding of its meaning are critical to the resolution of this case.

A Schedule A of Patent Rights was not prepared within 90 days of the Effective Date, as was contemplated under Section 1.07. However, the Contribution Agreement did not make the transfer of Patent Rights contingent on the creation or ultimate content of Schedule A.

The substantive language of the agreement—not the schedules—was intended to be controlling as to the rights and obligations of the parties. In particular, Section 9.07 provided that while schedules were incorporated by reference into the agreement, the inclusion or omission of an item from a schedule “shall not give rise to rights or an implication that DGTI has rights greater than those expressly provided for in this Agreement” or “give rise to an implication that DGTI has rights less than those otherwise provided for in this Agreement,” respectively. A5046. Thus, the Contribution Agreement overall provided that upon execution DGTI was to receive all of Dow’s “Patent Rights” as generally defined above, regardless of whether Schedule A existed or what might have been listed on it.

In accordance with the stated purpose of the Contribution Agreement, Dow and DGTI simultaneously entered into a Patent and Technology License Agreement (“PTLA”), whereby DGTI licensed back to Dow patent rights transferred under the Contribution Agreement on a non-exclusive, royalty-bearing basis. The PTLA provided mechanisms for Dow to seek enforcement of Licensed Patent Rights through DGTI’s reassignment of any transferred patents to Dow, or by DGTI permitting Dow to file suit in DGTI’s name. At Dow’s request, DGTI was required to promptly assign patents to Dow “in a manner that avoids loss of rights.” A5590.

An overall objective of this ownership and licensing scheme established between Dow and DGTI was for Dow to realize certain tax benefits. For the scheme to work, the holding company DGTI was required to be the owner of the Patent Rights, and to then license the patents back to Dow in exchange for royalty payments. Indeed, between 2005 and the third quarter of 2009, approximately \$68 million in royalties were paid by Dow to DGTI for its

“ELITE” family of products, which are covered by the ’023 patent. For these payments, DOW does not contest that it obtained a two percent (after federal tax) state tax savings. Dow contends that these royalty payments were for “Technology” and “Work Processes” such as trade secrets transferred by the Contribution Agreement and licensed under the PTLA, not the ’023 patent. No documentary evidence in the record apports out the royalty payments, and witnesses testified that they had “no basis to know” and were “not sure” to what extent the royalty payments were attributable to licensed patent rights as opposed to other intellectual property. A7106, A7140.

While the royalties recited in the PTLA are expressed in terms of “Technology” and “Work Processes,” neither of which is defined to expressly include “Patent Rights,” the PTLA makes clear that Dow was to pay those royalties “[i]n consideration of the licenses . . . granted [to Dow],” which include a license to use the Licensed Patent Rights. A5582-83. Indeed, one of the PTLA’s preambles refers to Dow obtaining a “royalty-bearing non-exclusive license to the Intangible Assets owned by DGTI,” and “Intangible Assets” are defined as including the “Patent Rights” transferred to DGTI under the Contribution Agreement. A5576, A5578. Moreover, “Patent Rights” are clearly related to “Technology” under the PTLA, since “Licensed Patent Rights” are defined as “that portion of Patent Rights that are relevant to the manufacture, sale and direct or indirect use of Licensed Products [i.e., products manufactured with *Licensed Technology*] . . . or to the utilization of *Licensed Processes* [i.e., methods and techniques for manufacturing products with *Licensed Technology*]” A5579 (emphasis added). Royalties were thus paid by Dow to DGTI at least in part for the grant-back licenses to the Patent Rights under the PTLA.

B. Litigation and Discovery Conduct By Dow

Dow filed its patent infringement complaint against NOVA Chemicals Corporation and NOVA Chemicals Inc. (collectively, “NOVA”) on October 21, 2005. It was not until June 19, 2009, five months after discovery closed, that Dow produced the Contribution Agreement in response to NOVA’s outstanding requests for production. The Contribution Agreement was accompanied by a document entitled “Schedule A-Patent Rights,” which contained no listing of patents, but was a single sheet stating that “this Schedule includes all Patent Rights of [Dow] . . . excluding Excluded Patent Rights set forth in Schedule ‘D.’” A5520. Also produced was a document entitled “Schedule D: Excluded Patents,” which did contain a listing of patents and included the patents-in-suit. A5521-74. This Schedule D had been updated by Dow to add the patents-in-suit to it right before it was produced. A7147. Lastly, Dow produced a Quitclaim Deed dated June 15, 2009—four days prior to production and more than three and a half years after the lawsuit was filed—which assigned to Dow “all of DGTI’s right, title, and interest to the Patents[-in-suit], if any.” A5092-93. The Quitclaim Deed was purportedly intended “to remove any potential doubt as to ownership of the patents[-in-suit].” *Id.*

While it is clear that Nova’s discovery requests spurred Dow to update the Schedule D and execute the Quitclaim Deed, the record does not explain why Dow waited so long to produce the previously existing documents. The record also does not reflect the nature and extent of Dow’s pre-filing investigation with respect to standing, which presumably would have revealed those existing documents four years prior, in 2005, when the lawsuit was filed.

After receiving and reviewing the Contribution Agreement, Schedules A and D, and the Quitclaim Deed, Nova pressed Dow for additional related documents bearing on standing. Dow then produced the original Schedule D from 2002 which, unlike the previously produced and recently updated Schedule D, did not list the patents-in-suit as “Excluded Patents.” Dow also produced the December 15, 2005 version of a document labeled “Schedule B Supplement,” which Dow’s paralegal testified was intended to be Schedule A to the Contribution Agreement. Unlike the previously produced Schedule A of Patent Rights, the Schedule B Supplement comprised a listing of patents, but it did not include the patents-in-suit. Dow’s paralegal testified that she did not know what modifications were made to the Schedule B Supplement as it existed prior to the December 15, 2005 version that was produced. Testimony also suggested that the Schedule B Supplement was a print-out of a query to an internal patent database for DGTI patents, which database was not updated to reflect the transfer of patents under the Contribution Agreement.

Based on these documents, NOVA believed that Dow transferred the patents-in-suit to DGTI in 2002 and did not own them when the lawsuit was filed. Nova moved to dismiss for lack of standing or, in the alternative, for full standing discovery. Nova’s motion was pending and languished for nine months, at which time the district court finally denied NOVA’s request that standing be addressed before the infringement trial. The district court did, however, allow limited standing discovery including abbreviated depositions of Dow’s witnesses.

With the threshold standing issue still unresolved, the infringement trial proceeded. The jury found the patents-in-suit to be infringed and not invalid, and awarded Dow damages of \$61.8 million. The district judge held a bench

trial on standing the following day and ultimately denied NOVA's motion to dismiss for lack of standing and entered judgment in favor of Dow. *Dow Chem. Co. v. Nova Chems. Corp.*, 726 F. Supp. 2d 459, 463-64 (D. Del. 2010) (“*Standing Op.*”).

The district court found the Contribution Agreement to be clear on its face and held that “a transfer of the patents-in-suit is not effectuated unless and until the patents are explicitly listed on Schedule A.” *Id.* at 462-63. The district court considered testimony from Dow's witnesses and found that the Schedule B Supplement produced by Dow was “in fact, intended to be Schedule A and used by the parties as Schedule A.” *Id.* at 463-64. Because the Schedule B Supplement did not list the patents-in-suit, in the district court's judgment the patents-in-suit were not transferred to DGTI under the Contribution Agreement, and Dow had standing to bring and maintain the lawsuit. *Id.*

II. DISCUSSION

Standing is a threshold jurisdictional question which we review *de novo*. *Mars, Inc. v. Coin Acceptors, Inc.*, 527 F.3d 1359, 1367 (Fed. Cir. 2008). The proper interpretation of a contract is a question of law that is also reviewed *de novo*. *First Annapolis Bancorp, Inc. v. United States*, 644 F.3d 1367, 1373 (Fed. Cir. 2011). Dow has the burden of proving standing to sue, and must demonstrate by a preponderance of the evidence that it held enforceable title on the date the complaint was filed. *Tyco Healthcare Group LP v. Ethicon Endo-Surgery, Inc.*, 587 F.3d 1375, 1378 (Fed. Cir. 2009); *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 561 (U.S. 1992).¹ The threshold issue of stand-

¹ While Dow received a Quitclaim Deed to the patents-in-suit from DGTI effective June 15, 2009, such a *nunc pro tunc* assignment cannot confer standing retroac-

ing must be satisfied in all cases, as it is “an essential and unchanging part of the case-or-controversy requirement of Article III.” *Lujan*, 504 U.S. at 560.

The Contribution Agreement indicates that its interpretation “shall be governed by and construed in accordance with the laws of the state of Delaware, without regard to principles of conflicts of laws,” and so Delaware’s principles of contract interpretation are to be applied in this case. A5046; *Parental Guide of Tex., Inc. v. Thomson, Inc.*, 446 F.3d 1265, 1269 (Fed. Cir. 2006) (“Contract interpretation is a matter of state law.”). As explained by the Supreme Court of Delaware,

In analyzing disputes over the content of a contract, we give priority to the intention of the parties. We start by looking to the four corners of the contract to conclude whether the intent of the parties can be determined from its express language. In interpreting contract language, clear and unambiguous terms are interpreted according to their ordinary and usual meaning. We will also construe the agreement as a whole, giving effect to all provisions therein, conscious of the fact that the meaning which arises from a particular portion of an agreement cannot control the meaning of the entire agreement where such inference runs counter to the agreement’s overall scheme or plan. Keeping these rules in mind, we should look to harmonize the entire agreement and remain con-

tively. *Abraxis Bioscience, Inc. v. Navinta, LLC*, 625 F.3d 1359, 1366-67 (Fed. Cir. 2010) (“Abraxis was required to have legal title to the patents on the day it filed the complaint and that requirement can not be met retroactively.”).

sistent with the objective intent of the parties that drafted the contract.

Land-Lock, LLC v. Paradise Prop., LLC, 963 A.2d 139 (Del. 2008) (Table) (citations and quotations omitted). Thus, Delaware courts are required to read a contract as a whole and to give effect to each provision thereof in order not to render any part of the contract “meaningless or illusory.” *Estate of Osborn v. Kemp*, 991 A.2d 1153, 1159 (Del. 2010).

While parties are generally bound by the plain meaning of the contractual language, such language is properly deemed ambiguous “when the provisions in controversy are reasonably or fairly susceptible of different interpretations or may have two or more different meanings.” *AT&T Corp., v. Lillis*, 953 A.2d 241, 252-53 (Del. 2008). If a Delaware court finds that a disputed contract term is ambiguous, then the “consideration of extrinsic evidence is *required*” to determine the intended meaning of the parties. *Id.* at 253 (quoting *Appriva Shareholder Litig. Co., LLC v. ev3, Inc.*, 937 A.2d 1275, 1291 (Del. 2007)) (emphasis added); see also *Eagle Industries, Inc. v. DeVilbiss Health Care, Inc.*, 702 A.2d 1228, 1232 (Del. 1997) (“When the provisions in controversy are fairly susceptible of different interpretations or may have two or more different meanings, there is ambiguity. Then the interpreting court *must* look beyond the language of the contract to ascertain the parties' intentions.”) (emphasis added).

Looking to the intention of the parties as reflected by the four corners of the Contribution Agreement, it is clear that the Contribution Agreement was intended to effectuate a broad mass transfer of patents from Dow to DGTI so that DGTI could grant back a license to Dow. Only certain patents subject to three specified exceptions under

Section 1.07 of the Contribution Agreement were not subject to the transfer. The first two exceptions, which are not at issue in this case, encompassed patents that cannot be transferred without affecting the rights or obligations of Dow, its Affiliated Companies, or third parties under prior agreements or assignments relating to Dow's patents. The third exception, which is disputed and central to this appeal as discussed below, encompassed patents for which transfer "would result in a loss of rights."

The threshold jurisdictional issue before us is whether the patents-in-suit were excluded from transfer under the Contribution Agreement. Resolution of this issue centers around the proper interpretation of Section 1.07, which requires a careful analysis of the purpose of Schedule A, the meaning of the "loss of rights" provision in the definition of Patent Rights, and other extrinsic evidence offered to show the parties' intent. Guided by the above principles of Delaware contract law, I address each of these matters in turn.

A. The Purpose of Schedule A

The district court erred in finding that Schedule A was the legally operative document that effectuated all transfers of patents under the Contribution Agreement. The operative transfer language is provided in Section 2.01. A5041-42 ("TDCC hereby conveys, transfers, assigns and delivers to DGTI . . . all of TDCC's right and title to and interest in the Patent Rights . . ."). Section 1.07 defines the transferred Patent Rights as "any and all patents" owned by Dow that Dow can assign without implicating one of three exceptions, none of which reference Schedule A. Nowhere in the Contribution Agreement is the transfer predicated or dependent upon whether patents are listed on Schedule A. Indeed, Section

9.07 makes clear that the contents of the schedules are not controlling. Moreover, Section 2.01 provides that Dow “hereby” transfers the patents, which strongly indicates an immediately effective transfer, while Schedule A was not even required to be completed until after the Contribution Agreement was executed. *See Abraxis*, 625 F.3d at 1364-65 (distinguishing a party who “hereby assigns” rights from one that merely “agrees to assign” such rights in the future); *DDB Techs., L.L.C. v. MLB Advanced Media, L.P.*, 517 F.3d 1284, 1290 (Fed. Cir. 2008) (contrasting a present assignment of rights to future inventions, which causes transfer by operation of law when a future invention comes into being, with a promise or obligation to assign those same rights in the future).

To find that no patents were transferred unless and until listed on the Schedule A ignores Section 9.07, nullifies the transfer set forth in Section 2.01, renders superfluous the detailed and specific definition of Patent Rights in Section 1.07, and rearranges the fundamental purpose of the tax and business scheme intended under the agreement as a whole. Such a reading would cause most of the Contribution Agreement to be “meaningless or illusory.” *Osborn*, 991 A.2d at 1159. The reference to Schedule A in the Contribution Agreement shows that the parties desired to make and maintain a listing of the patents that were transferred to DGTI as a matter of convenience, not as a prerequisite to a valid transfer.

The majority takes great effort in arguing that Schedule A necessarily dictates the operation of the agreement. Because Section 9.07 acknowledges that “inadvertent errors” may occur in the preparation of the schedules and provides that that these errors should be corrected by the parties, the majority believes that Schedule A is intended to be controlling unless the parties mutually agree that a mistake or omission has been made

in its preparation. A5046. This view turns the Contribution Agreement on its head by eviscerating Section 1.07's definition and inflating the role of Schedule A without any basis in the Contribution Agreement or Delaware law. Under Section 9.07, any erroneously included or omitted items from the schedules "shall not give rise to rights or an implication that DGTI has rights greater than those expressly provided for in this Agreement" or "give rise to an implication that DGTI has rights less than those otherwise provided for in this Agreement," respectively. A5046. Section 9.07 is thus better understood as a provision whereby the parties expected that Schedule A would accurately reflect the transferred Patent Rights, and to the extent Schedule A did not accord with the definition of Patent Rights in Section 1.07—i.e., it included "inadvertent errors"—Section 1.07 would control and Schedule A would be appropriately updated.

While the majority focuses on whether Schedule A is "meaningful," the real issue before us is whether Schedule A alone dictates which patents were transferred from Dow to DGTI. The language of Sections 1.07, 2.01, and 9.07, when read together to give effect to the intended scheme of the Contribution Agreement, makes clear that it does not.

B. The Meaning of "Loss of Rights"

Dow argues in the alternative that the patents-in-suit did not fall within the definition of Patent Rights that Dow transferred to DGTI. As noted above, in Section 1.07 there were three circumstances which excepted a patent from being transferred: (1) the transfer would require "the consent of or accounting to a Third Party or Affiliated Company"; (2) the transfer would "diminish[] the royalties paid or payable by or otherwise materially affecting the obligations of such Third Party or Affiliated Company

with respect to such Patent Rights”; or (3) the transfer would result in “a loss of rights.” A5040. Dow does not contend that the transfer of the patents-in-suit would be precluded under the two former exceptions. Rather, Dow claims that the patents-in-suit were not transferred because such a transfer would have resulted in a “loss of rights” to Dow, namely, Dow’s ability to recover lost profits from NOVA by not owning the patents during the period of NOVA’s alleged infringement. Dow’s position would therefore preclude transfer of any and all enforceable patents covering technology that Dow was then using or might have begun using in the future.

Unlike Dow, the majority declines to address the meaning of the “loss of rights” clause at all. The majority believes that in the context of Section 1.07, Schedule A is a “quite specific” provision, whereas the phrase “loss of rights” is “part of a broad exclusionary definition,” such that Schedule A must trump and substitute for the general definition because the “specific and general provisions conflict.” Maj. Op. at 8 (citing *DCV Holdings, Inc. v. ConAgra, Inc.*, 889 A.2d 954, 961 (Del. 2005) (“Specific language in a contract controls over general language, and where specific and general provisions conflict, the specific provision ordinarily qualifies the meaning of the general one.”)). To reach this conclusion, the majority finds a false conflict between the qualitative definition of Patent Rights in Section 1.07 and the reference to Schedule A. As discussed above, the “loss of rights” clause describes one category of patents that are excluded from transfer, and Schedule A is merely a document intended to accurately list the transferred Patent Rights. Schedule A’s “quite specific” listing and Section 1.07’s “broad exclusionary definition” co-exist without conflict because the definition governs the transfer in the event of any inconsistency between the definition and Schedule A.

Again, it is impermissible for the majority to treat the entire definition of Patent Rights as superfluous, and thereby decline to interpret its language. *Osborn*, 991 A.2d at 1159. The effect of the “loss of rights” clause in particular is a critical disputed issue in this case that begs the question as to its meaning. In order to “read the instrument as a whole, and, if possible, reconcile all the provisions of the instrument,” the “loss of rights” clause must be interpreted, for it is a key component of the agreement. *Elliot Assocs. v. Avatex Corp.*, 715 A.2d 843, 854 (Del. 1998).

The phrase “loss of rights” is not defined in the Contribution Agreement, nor it is used anywhere other than in Section 1.07. Nevertheless, it is clear that this “loss of rights” language cannot mean what it says on its face because no patent can be transferred without a loss of some rights by the transferor. Contrary to Dow’s assertions, there is nothing in the agreement suggesting that the “loss of rights” clause contemplated the right to recover lost profits in litigation. In contrast with the rights relating to the payable royalties expressly mentioned in Section 1.07, lost profits are not mentioned in the Contribution Agreement, nor is the word “litigation” used. The context in which the loss of rights clause appears—i.e., being listed third in a sentence after two other exceptions involving third party rights and obligations under the patents, including those relating to royalties—is unhelpful because “loss of rights” is in no way tied to the other exceptions. The overall objective of the Contribution Agreement to transfer patents to DGTI for licensing back to Dow does not assist us in deciding to what extent the clause implicates litigation standing or substantive remedial rights. Even the majority agrees that the parties’ best attempts to give meaning to the “loss of rights” phrase have no discernible basis in the four corners of the

agreement. Maj. Op. at 7 (“Neither one of [the parties’] theories is anchored in the text of the Contribution Agreement.”). As such, the phrase “loss of rights” is ambiguous as used in the Contribution Agreement and Delaware law requires examination of the extrinsic evidence to resolve the ambiguity. *AT&T Corp.*, 953 A.2d at 253. While the district court and the majority both erroneously fail to undertake this analysis, I will now address the pertinent extrinsic evidence bearing on the meaning of “loss of rights.”²

² Under these circumstances, whereby in our *de novo* review I would reverse the district court and find ambiguity, this court has the authority to fully delve into the extrinsic evidence to resolve the ambiguity, rather than remand to the district court for further fact finding. *See Metric Constructors, Inc. v. NASA*, 169 F.3d 747, 749, 753-54 (Fed. Cir. 1999) (reversing Board decision where evidence of trade practice, custom, and the parties’ conduct was given “no weight ‘in light of the clear words’ of the contract,” and resolving the ambiguity without remand).

Because the district court found the Contribution Agreement to be unambiguous, it did not engage in a thorough discussion of the extrinsic evidence. Nevertheless, while the district court made clear that it did consider such evidence, it determined that it ultimately was “not persuaded” that the extrinsic evidence should change the result. *Standing Op.* at 461, 463. Despite also deeming the Contribution Agreement unambiguous, the majority analyzes extrinsic evidence alleged to support its conclusion, such as testimony from Dow’s paralegal Kathleen Maxwell on the issue of the accuracy and authenticity of the Schedule B Supplement in evidence. These internally contradictory approaches of the district court and the majority belie their findings that there is no ambiguity concerning the Contribution Agreement and Schedule A.

1. Contemporaneous Communications

Under Delaware law, outside the express terms of an agreement, communications and documentation made contemporaneously with the agreement are the best extrinsic evidence of the parties' intent. *See Hudak v. Procek*, 806 A.2d 140, 148 (Del. 2002) (explaining that absent contemporaneous documentation, parties may generally offer two types of evidence to prove intent: testimony concerning their intent or post-transaction conduct). This case presents an instance in which there are documents in the record that were contemporaneously prepared by the parties to the Contribution Agreement, and which explicitly discuss their reasoning for including the disputed "loss of rights" term. Importantly, these discussions address the effect the transfer of Patent Rights would have on Dow's standing to assert patents in litigation.

On January 27, 2002, shortly before the Contribution Agreement was signed,³ Dow's Managing Patent Counsel Mr. Bruce Kanuch sent an email posing the following question about the Contribution Agreement's effect on Dow's then-pending litigations:

Did transfer of all patents into this new company have any provisions on how to handle *pending litigations* under Dow patents It is a question of who had standing and who is the real party in interest in these litigations.

A5664 (emphasis added). Other in-house counsel explained that standing for future potential litigations, such

³ Although the Contribution Agreement was effective January 1, 2002, it was not actually signed by Dow and DGTI until February 17 and 7, 2002, respectively.

as in this case, could be easily addressed by the PTLA's provisions for re-assignment of patents to Dow, but that pending litigations were not specifically addressed by the Contribution Agreement:

The Patent and Technology License Agreement, which also will be executed shortly, makes provision for DGTI to convey rights to bring suit under patents even after these are contributed, but no specific mention was made of the current litigations.

A5663. Mr. Kanuch then elaborated on his standing concerns, observing that while licensing arrangements can in some circumstances impart licensees with standing, it was generally easier to just sue in the name of the owner/licensor. He therefore proposed that it would be best for patents involved in pending litigation to remain with Dow and not be transferred to DGTI:

The issue is primarily one of legal standing to bring and/or maintain the lawsuit. Normally an exclusive license must include an essentially complete transfer of all rights under the patent in order for the licensee to have standing to bring the suit in its own name without adding the patent owner. If not the court's fear is that the patent owner could later bring a second suit. It would be cleaner to have title stay with TDCC or transfer the patent and bring suit in the name of Dow Tech, Inc. *For the suits that are already pending it would make it simpler to have the patents just remain with Dow.*

Id. (emphasis added). Dow's in-house counsel agreed with Mr. Kanuch's proposal and explained that she added a "loss of rights" provision to address his concern:

Thank you for the feedback. *I've addressed this issue in the contribution agreement by excluding patents that can't be transferred to DGTI without a loss of rights* (previously, it excluded patents that can't be transferred to DGTI without a loss of patent protection). As an overall safety net, there is a schedule of excluded intangible assets, just in case there may be other instances in which we determine that there would be some disadvantage in transferring the assets to DGTI.

Id. (emphasis added). In an abundance of caution, other in-house counsel responded with a proposal to schedule the patents that were involved in pending lawsuits:

It is desirable to avoid any ambiguity with regard to TDCC's rights to continue the suits. *I recommend that we schedule the patents involved in these litigations to affirm these are not contributed to [Dow Global] for the duration of the litigation.*

A5662 (emphasis added). Finally, Dow's paralegal responded with an email attaching "a listing of Dow's patents involved in litigation on Jan. 1, 2002." A5662.

These emails show that Dow and DGTI were concerned with losing standing in pending litigations by transferring the asserted patents to DGTI in the middle of the case. The solution to the problem in their minds was the loss of rights clause, which operated to preclude transfer of patents involved in pending cases that had been brought in Dow's name only. To remove any doubt, they even scheduled a list of patents involved in litigations pending on January 1, 2002, which were supposedly not to be transferred. Future cases were not perceived as problematic from a standing perspective since such cases could simply be brought by DGTI or, upon Dow's request,

DGTI could transfer patents back to Dow. In any event, the focus of these contemporaneous communications concerning the loss of rights provision was solely on the issue of legal standing. Notably absent from these emails is any mention of lost profits, which is reasonable since the right to collect lost profits has no bearing on Dow's ability to "bring and/or maintain . . . lawsuit[s]." A5663.

These contemporaneous communications show that "loss of rights" in Section 1.07 was meant to address the loss of ownership rights that would eliminate Dow's standing in any litigations pending as of January 1, 2002. Since the patents-in-suit were not asserted against NOVA until 2005, they were not excepted from transfer under the "loss of rights" clause, and as such were transferred to DGTI under the Contribution Agreement.

C. Other Extrinsic Evidence

Other extrinsic evidence offered by the parties regarding transfer and/or the meaning of the "loss of rights" clause comprises Dow's and DGTI's post-execution conduct, primarily with respect to the contents of Schedules A and D. In brief, I find this additional evidence is not persuasive to overcome the express language of the agreements or the clear evidence as to the meaning of "loss of rights."

1. The Schedule B Supplement

First, the parties argue whether the presence or absence of the patents-in-suit on Schedule A to the Contribution Agreement reflect an intention of Dow and DGTI to exclude the patents-in-suit from transfer under the loss of rights clause. While I conclude that the district court did not clearly err in finding that Dow's Schedule B Supplement was in fact intended to be Schedule A, and that this version of Schedule A did not list the patents-in-

suit, as discussed above, Schedule A does not control what was or was not transferred. Whether the patents-in-suit were listed on Schedule A also has little to no bearing on what the operative language “loss of rights” means.

To the extent the Schedule B Supplement lists what Dow and DGTI thought was transferred to DGTI under the Contribution Agreement, I note that no version of Schedule A in the record was prepared contemporaneously with the Contribution Agreement. The only version of Schedule A before us that listed any patents was dated December 15, 2005, far removed from the effective date of the Contribution Agreement (January 1, 2002) and therefore of very limited probative value regarding the parties’ intent in 2002. Moreover, because this Schedule A was dated nearly a month after the complaint was filed (October 21, 2005), and because Dow did not introduce evidence or testimony to show what changes were made to the document prior to December 15, 2005, there is no basis—much less a preponderance of the evidence—to conclude that the patents-in-suit were not listed on Schedule A when the lawsuit was initiated. Lastly, Dow contends that since the Schedule A in the record lists only four of Dow’s approximately 7,300 pre-2002 United States patents, U.S. patents in addition to those involved in pending litigation were excluded from transfer. Yet there is no evidence in the record that explains why those four U.S. patents in particular were the only ones listed. It strains credibility to suggest that only four U.S. patents were transferred by an agreement having such broad transferring language, particularly given the substantial anticipated tax benefits that would accrue from a mass transfer of U.S. patents under Dow’s overall assignment and grant-back scheme.

The majority finds no basis to doubt the accuracy of the October 21, 2005 Schedule A in terms of reflecting

ownership of the patents-in-suit when this lawsuit was filed. Despite finding the Contribution Agreement unambiguous and requiring no inquiry into extrinsic evidence, the majority selectively points to the extrinsic testimony of Dow's paralegal Kathleen Maxwell to suggest that no version of Schedule A ever listed the patents-in-suit so as to effectuate their transfer to DGTI. The majority points out that Schedule A was originally created in 2002 by Ms. Maxwell from Dow's internal database listing of patents owned by DGTI. However, this proves nothing as to the effect of the Contribution Agreement on Dow's patent portfolio ownership because Ms. Maxwell, who testified that she was responsible for managing the database, also testified that she had not updated the database in 2002 to reflect the Contribution Agreement. Likewise, Ms. Maxwell's testimony does not explain which patents were added or removed from the database over time, or why such changes were made, in relation to subsequent updates to Schedule A leading up to the December 15, 2005 version in evidence. Ms. Maxwell's only means of verifying that the patents-in-suit were not listed on Schedule A currently was to query Dow's new internal database which the evidence shows was only in use since 2009, long after the Contribution Agreement's execution and the filing of the present lawsuit. Regardless of the "virtually unassailable" credibility of Ms. Maxwell with respect to the statements cited by the majority, those statements tell only part of the story and were controverted by other testimony. This weak and inconclusive testimony as to the contents of Schedule A over time, particularly in light of the absence of any documentary evidence as to Dow's internal database or Schedule A prior to October 21, 2005, calls into question which patents, if any, were listed on any version of Schedule A that existed prior to the filing of this lawsuit.

The Schedule A in the record simply does not help Dow carry its burden to prove by a preponderance of the evidence that the patents-in-suit were owned by Dow when it initiated this lawsuit, nor does it provide any guidance as to what was meant by “loss of rights” in 2002.

2. Schedule D

Second, the parties argue whether Schedule D to the Contribution Agreement, which provides a listing of “Excluded Intangible Assets,” indicates that the patents-in-suit were transferred. Schedule D was prepared by Dow and DGTI within the 90 day period specified under the Contribution Agreement and, unlike the Schedule B Supplement, was therefore contemporaneously created with the Contribution Agreement. Delaware law treats such contemporaneous documentation as more probative of intent than later-created evidence or testimony. *See Hudak*, 806 A.2d at 148 (emphasizing that evidence “at the time of the transaction” is most probative of the contemporaneous understanding of an agreement). The contemporaneously prepared Schedule D did not list the patents-in-suit, but a later version of Schedule D updated by Dow in 2009 in response to Nova’s discovery requests did list the patents-in-suit. NOVA argues that the absence of the patents-in-suit on the original Schedule D indicates that the patents-in-suit were in fact transferred. NOVA also contends that the later updated version of Schedule D which included the patents-in-suit was essentially a litigation-induced fabrication to make it appear as if the patents-in-suit had not been transferred in 2002.

While Dow’s counsel understood Schedule D as “an overall safety net” useful to avoid disadvantageous transfers, A5663, the Contribution Agreement is not clear as to how Schedule D relates to the definition of Patent Rights in Section 1.07, if at all. Neither Schedule D nor the

“Excluded Intangible Assets” are referenced anywhere in connection with the transferred Patent Rights. To the extent Schedule D was intended to list patents that were not transferred, the version of Schedule D prepared contemporaneously with the Contribution Agreement did not list the patents-in-suit, and this fact should not be disregarded. *See Hudak*, 806 A.2d at 148.

Even if the presence of a patent on Schedule D excluded it from transfer for some reason, the inverse is not necessarily true. Because the schedules to the Contribution Agreement are not controlling, a patent not listed on Schedule D could still be excluded from transfer under one or more of the exceptions in Section 1.07. Thus, Schedule D alone cannot reveal why any given patents were listed as Excluded Intangible Assets, and the absence of the patents-in-suit from the original Schedule D could have been for any number of reasons. To the extent Dow argues that there are generally more U.S. patents listed on Schedule D than were involved in active litigation in 2002—which could arguably support its “lost profits” theory—I see no evidence in the record to support this statement or explain why the particular U.S. patents listed on Schedule D were excluded from transfer, and I see no need to engage in further analysis of this assertion. *See Gemtron Corp. v. Saint-Gobain Corp.*, 572 F.3d 1371, 1380 (Fed. Cir. 2009) (emphasizing that “unsworn attorney argument . . . is not evidence”). I therefore find the parties’ arguments regarding Schedule D to be unpersuasive, and unhelpful in discerning what “loss of rights” means.

3. USPTO Assignment Records and Maintenance Fees

Third, the parties point to other purportedly objective indications of ownership of the patents-in-suit. For example, Dow notes that Dow and DGTI filed assignment

documents with the U.S. Patent and Trademark Office (“USPTO”) to record the transfer of ownership for many patents to DGTI, but did not do so for the patents-in-suit. NOVA counters that DGTI, not Dow, bore the cost of the maintenance fees paid to the USPTO for the patents-in-suit from 2004 to the present. Dow's chief IP counsel conceded that typically it is the owner of a patent who pays the maintenance fees. Despite that this conflicting post-execution conduct is at best ambiguous as to whether the patents-in-suit were conveyed by Dow to DGTI, the majority finds the 1990s assignment records at the USPTO persuasive to suggest that Dow is in fact the proper owner of the patents-in-suit. The assignment records merely create a presumption of ownership, however, and are not dispositive. *See SiRF Tech., Inc. v. Int’l Trade Comm’n*, 601 F.3d 1319, 1327-28 (Fed. Cir. 2010). In this case, subsequent to the USPTO assignment records are the Contribution Agreement and the Quitclaim Deed showing Dow’s transfer and reacquisition of the patents-in-suit. Rather than relying on an absence of a future recorded assignment to show that Dow still owns the patents-in-suit, as the majority does, I find the evidence in the record of actual subsequent assignment documents more persuasive to show which entity held title to the patents-in-suit when this litigation commenced.

4. Patent Royalty Payments

Lastly, NOVA contends that Dow’s royalty payments to DGTI and corresponding tax benefits indicate that Dow transferred the patents to DGTI. Otherwise, according to NOVA, Dow has taken a position so as to have its cake and eat it too—to own the patents for purposes of standing but not for purposes of royalties and taxation. While the record is not clear as to how much of the royalty payments are attributable to the ’023 patent, Dow has not

shown that the payments were made solely in exchange for rights to intellectual property other than the patents-in-suit. Dow concedes that it received tax benefits, and the PTLA as a whole strongly suggests that the royalties owed to DGTI relate at least in part to the '023 patent (i.e., to Dow's ELITE product line), but Dow presented no evidence to apportion out the royalty payments that gave rise to its tax benefits. Only Dow would have this information. This failure of proof by Dow tends to suggest that the '023 patent was transferred to DGTI. Again, Dow bears the burden to establish standing, and this glaring contradiction between the overarching goal of the agreements and Dow's assertion that the patents-in-suit were somehow not part of the transfer and grant-back scheme highlights Dow's failure to carry its burden. *Land-Lock*, 963 A.2d 139 (explaining that contracts should not interpreted by making "inference[s] run[ning] counter to the agreement's overall scheme or plan").

* * *

In sum, I find that the Contribution Agreement, when read in light of all the extrinsic evidence, shows that the patents-in-suit were transferred to DGTI as of January 1, 2002.

III. DISMISSAL WITH PREJUDICE IS UNWARRANTED

The law "universally disfavors dismissing an action with prejudice based on lack of standing," and I see no compelling reason to so do as a sanction in this case. *Univ. of Pittsburgh v. Varian Med. Sys., Inc.*, 569 F.3d 1328, 1332-33 (Fed.Cir. 2009). Dismissal without prejudice tends to be appropriate where, as here, the plaintiff is able to cure (and indeed already has cured via the Quitclaim Deed) the standing problem. *See Tyco*, 587 F.3d at 1380 (affirming dismissal without prejudice in part because "[a]s best we can tell, Tyco Healthcare may

become able to show that it owned the asserted patents. Alternatively, Tyco Healthcare may be able to obtain ownership of the patents.”); *Sicom Sys. v. Agilent Techs., Inc.*, 427 F.3d 971, 980 (Fed. Cir. 2005) (affirming dismissal with prejudice where plaintiff “already had a chance to cure the [standing] defect and failed”); *Fieldturf, Inc. v. Southwest Rec. Indus.*, 357 F.3d 1266, 1269 (Fed. Cir. 2004) (“On occasion, . . . a dismissal with prejudice is appropriate, especially where ‘it [is] plainly unlikely that the plaintiff [will be] able to cure the standing problem.’”) (citations omitted).

NOVA argues that Dow failed to perform a sufficient pre-filing investigation, failed to provide timely and adequate discovery on standing issues, and produced schedules of questionable authenticity and accuracy, all of which “wasted untold time and money on an infringement case that should never have been brought or should promptly have been dismissed.” NOVA Br. at 56. Essentially, NOVA argues that Dow has engaged in the kind of conduct that warrants a dismissal with prejudice as a sanction. In support of its argument, NOVA cites *Lans v. Digital Equip. Corp.*, in which this court affirmed a district court’s dismissal with prejudice where the plaintiff “purported to own a patent he did not actually own . . . did not disclose the actual owner until the [Defendants] discovered the assignment . . . , and even then he equivocated.” 252 F.3d 1320, 1328-29 (Fed. Cir. 2001). The plaintiff in *Lans*, however, could not re-file because the patent had expired and he could not recover past damages under 35 U.S.C. § 287. *Id.* at 1328. Moreover, there was no dispute that the plaintiff in *Lans* had actually assigned away the patent to another entity before misrepresenting that he still owned the patent. Rather, the plaintiff alleged that he “had simply forgotten about the assignment,” but the district court found this allegation of an

honest mistake was not credible. *Id.* at 1324-25. While dismissal with prejudice was appropriate in that case, this court has been appropriately reluctant to sanction parties with a dismissal with prejudice. *See Univ. of Pittsburgh*, 569 F.3d at 1333-34 (reversing dismissal with prejudice despite district court's specific findings of "untimely and unfair" conduct in choosing not to join a necessary party for "tactical" reasons, as well as "undue delay" via failure to abide by scheduling orders). I would decline to impose such a harsh penalty on Dow based on the record before us in this case.

IV. CONCLUSION

I believe that law schools still teach first year law students that whether standing exists should always be one of the first questions considered when a lawsuit is likely to be filed. When a genuine question of standing is presented, its resolution should not be delayed by the parties or by the court, as every day spent in a litigation brought without standing is wasteful. Counsel, as fiduciaries to their clients and officers of the court, are obligated to diligently work to prevent such unnecessary burdens on the justice system.