

# Stanford **Technology** Law Review

## Rethinking Enablement in the Predictable Arts: Fully Scoping the New Rule

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CITE AS: 2009 STAN. TECH. L. REV. 3

<http://stlr.stanford.edu/pdf/chao-rethinking-enablement.pdf>

### ABSTRACT

¶1 In exchange for granting inventors a limited monopoly, the patent laws require inventors to “enable” the public to make and use their invention. In *Liebel-Flarsheim Co. v. Medrad, Inc.*, *Automotive Technologies International, Inc. v. BMW of North America, Inc.*, and *Sitrick v. Dreamworks, L.L.C.*, the Federal Circuit made it far easier to show that patents are invalid based on lack of enablement in the predictable arts. These decisions rely on the enablement doctrine to invalidate claims that appear to be far broader in scope than what the written description of the patents suggests.

¶2 This Article: (1) explains the rationale underlying the enablement doctrine; (2) traces how the doctrine has evolved into various inconsistent tests; (3) analyzes the three new decisions; and (4) rejects the “full scope” rule that these decisions advance. Specifically, this Article argues that in the predictable arts, the full scope rule is extremely difficult to apply and will cause unnecessary litigation. Moreover, the enablement doctrine is a blunt instrument that rewards unintended beneficiaries and cannot consider all the facts important to an overbreadth analysis. Therefore, the enablement doctrine is not well suited to addressing the problem of generic or overbroad claims.

¶3 This Article concludes that the Federal Circuit should take a step back from the full scope rule and return to the principles set forth in its earlier decisions. Finally, this Article suggests that if the Court truly wishes to address overbroad or generic claims, the doctrines of claim construction and the reverse doctrine of equivalents are better vehicles for accomplishing that goal.

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The author would like to give special thanks to Fred Hadidi for being the primary sounding board for this article. Ann Pease, Linda Baxley, and Brian Clarke also deserve recognition for their insightful comments. The opinions expressed in this article are the author's alone and should not be attributed to Chao Hadidi Stark & Barker LLP or its clients.

## I. INTRODUCTION

¶4 The primary goal of the patent system is to promote innovation without stifling competition.<sup>1</sup> Patents encourage innovation by granting inventors a monopoly to make, use, and sell the patented technology for a limited term.<sup>2</sup> However, when patent rights become too strong, competition can be harmed.

¶5 For several years, the predominant view has been that the scales have tipped too far in favor of patent holders.<sup>3</sup> In response, the courts have been reining in patent holders' rights in several different ways. For example, in *KSR International Co. v. Teleflex Inc.*, the Supreme Court clarified the obviousness standard, making it easier to combine references and invalidate patents.<sup>4</sup> In *eBay Inc. v. MercExchange, L.L.C.*, the Supreme Court overruled years of Federal Circuit precedent that granted permanent injunctions to virtually all prevailing plaintiffs.<sup>5</sup> Under the new standard announced in *eBay*, courts must use the same four-factor test that they use for other types of cases. This has resulted in fewer permanent injunctions and reduced the value of patents.<sup>6</sup> The Federal Circuit has also limited patent holders' rights in new ways. For example, in *In re Seagate*, the Federal Circuit made it more difficult for patent holders to prove willful infringement by adopting a recklessness standard to replace the previous standard, which was more akin to negligence.<sup>7</sup>

¶6 This anti-patent trend has now touched yet another doctrine. Previously, when confronted with broad or generic claims, defendants raised two primary arguments: 1) the claims should be construed narrowly; and 2) the claims are invalid based on the prior art. Three recent Federal Circuit decisions—*Liebel-Flarsheim Co. v. Medrad, Inc.*,<sup>8</sup> *Automotive Technologies International, Inc. v. BMW of North America, Inc.*,<sup>9</sup> and *Sitrick v. Dreamworks, L.L.C.*<sup>10</sup>—have expanded the enablement defense and provided defendants with another tool to challenge claims that have a far broader scope than might be expected from reading the patent's specification.

¶7 These decisions rely upon and then extend principles developed in one line of enablement decisions. They ignore, however, another line of cases that has evolved separately. This second line of cases simplified the enablement standard so that a specification that enables *any* embodiment satisfies the enablement requirement notwithstanding the breadth of the claims. *Liebel-Flarsheim*, *Automotive Technologies*, and *Sitrick* take the existing split in Federal Circuit law and pry it even further open. The three recent decisions held claims invalid because the descriptions did not enable the *full scope* of the claimed invention. The “full scope” rule, as applied in these decisions, suggests that if a patent fails to enable any embodiment that falls within the scope of the claim, the claim is invalid.

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<sup>1</sup> See FED. TRADE COMM'N, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY 1-4 (2003) [hereinafter INNOVATION] (discussing goals of patent policy), available at <http://www.ftc.gov/os/2003/10/innovationrpt.pdf>.

<sup>2</sup> 35 U.S.C. § 154(a).

<sup>3</sup> See Thomas F. Cotter, *Patent Holdup, Patent Remedies, and Antitrust Responses*, 34 J. CORP. L. (forthcoming 2009) (working paper at 3, available at <http://ssrn.com/abstract=1273293>) (“In recent years, influential scholars, practicing lawyers, government officials, government commissions, enforcement agencies, and courts have all identified the phenomenon of ‘patent holdup’ as a serious problem that may require various reforms to both patent and antitrust law.” (footnotes omitted)); see also Douglas Lichtman & Mark A. Lemley, *Rethinking Patent Law's Presumption of Validity*, 60 STAN. L. REV. 45, 47 n.5 (2007) (“Calls for patent reform have echoed loudly over the past several years, with industry organizations, patent scholars, and government agencies all publicly announcing that the patent system is broken and that the PTO in particular is letting a large number of undeserving patents be issued.”).

<sup>4</sup> 550 U.S. 398 (2007).

<sup>5</sup> 547 U.S. 388 (2006).

<sup>6</sup> See Bernard H. Chao, *After eBay, Inc. v. MercExchange: The Changing Landscape for Patent Remedies*, 9 MINN. J.L. SCI. & TECH. 543 (2008).

<sup>7</sup> *In re Seagate Tech., LLC*, 497 F.3d 1360 (Fed. Cir. 2007).

<sup>8</sup> 481 F.3d 1371 (Fed. Cir. 2007).

<sup>9</sup> 501 F.3d 1274 (Fed. Cir. 2007).

<sup>10</sup> 516 F.3d 993 (Fed. Cir. 2008).

¶8 These results would not have been surprising if the patents were found in the unpredictable arts (e.g. chemical or biotechnology). In those fields, the law has long required the specification to provide a higher level of detail to satisfy the enablement requirement.<sup>11</sup> However, the patents in *Liebel-Flarsheim*, *Automotive Technologies*, and *Sitrick* relate to technology that would normally be considered to fall within the predictable arts. These decisions operate under the pretense that they are simply applying existing enablement law. This Article argues that the cases represent a new direction. Before the entire Federal Circuit adopts this approach, it should consider whether applying the full scope rule in the predictable arts is the best course. To aid in that analysis, this Article reevaluates the enablement doctrine and attempts to identify potential problems with the full scope rule.

¶9 Part II of this Article reviews the case law that existed prior to *Liebel-Flarsheim*, *Automotive Technologies*, and *Sitrick* and discusses the original split. Part III describes the three recent enablement decisions and how they differ from previous case law. Part IV summarizes the current split. Part V critically analyzes whether the new full scope rule is appropriate. Specifically, this Article explains that the goal of the full scope rule is to address overbroad claims and why the enablement doctrine is not particularly well suited to address that problem. Moreover, because innovation in the predictable arts tends to be incremental, the full scope rule is extremely difficult to apply. This may allow zealous defendants to raise an enablement defense in far too many lawsuits.

¶10 Finally, Part VI suggests the following: 1) the Federal Circuit should stop focusing on the full scope of a claim and return to weighing traditional factual considerations; and 2) to the extent that the Federal Circuit is attempting to address overbroad claims, it should consider other doctrines whose remedies are better suited for reining in broad patents.

## II. ENABLEMENT LAW, BACKGROUND

### *A. Section 112: Enablement*

¶11 The statutory basis of the enablement requirement is found in 35 U.S.C. § 112, which states that the specification shall describe “the manner and process of making and using [the invention], in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the [invention] . . . .”<sup>12</sup>

¶12 This requirement is satisfied when a person of ordinary skill in the art, after reading the specification, could practice the claimed invention without undue experimentation.<sup>13</sup> The issue of enablement is “a question of law based on underlying facts.”<sup>14</sup>

### *B. The Predictability Issue*

¶13 Historically, courts have treated inventions involving the predictable arts differently from those in the unpredictable arts. In *In re Fisher*, the Court of Customs and Patent Claims explained the rationale underlying this distinction:

In cases involving predictable factors, such as mechanical or electrical elements, a single embodiment provides broad enablement in the sense that, once imagined, other embodiments can be made without difficulty and their performance characteristics predicted by resort to known scientific laws. In cases involving unpredictable factors, such

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<sup>11</sup> See *infra* note 15 and accompanying text.

<sup>12</sup> 35 U.S.C. § 112 (2006).

<sup>13</sup> *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384 (Fed. Cir. 1986) (“Enablement . . . is not precluded even if some experimentation is necessary, although the amount of experimentation needed must not be unduly extensive . . . .”).

<sup>14</sup> *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1238 (Fed. Cir. 2003) (citing *In re Wands*, 858 F.2d 731, 735 (Fed. Cir. 1988)).

as most chemical reactions and physiological activity, the scope of enablement obviously varies inversely with the degree of unpredictability of the factors involved.<sup>15</sup>

¶14 Importantly, *Fisber* does not describe a different standard for different technologies. Rather, the decision explains why, in practice, a disclosure of a single embodiment in the predictable arts may enable broad claims. In cases where the technology is predictable, disclosing a single embodiment will often allow persons of skill in the art to practice other embodiments. As the technology becomes less predictable, persons of skill in the art may not understand how to practice other embodiments without additional insights.

¶15 In *In re Wands*, the Federal Circuit incorporated the issue of “predictability” into its analysis of the enablement standard.<sup>16</sup> Although the term “undue experimentation” does not appear in the statute, “it is well established that enablement requires that the specification teach those in the art to make and use the invention without undue experimentation.”<sup>17</sup> The Federal Circuit stated that “[w]hether undue experimentation is needed is not a single, simple factual determination, but rather is a conclusion reached by weighing many factual considerations.”<sup>18</sup> The Court then listed a number of factors to be considered:

(1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.<sup>19</sup>

¶16 Thus, under *Wands*, the enablement standard is a nuanced test that depends on a number of different factors. As our analysis reveals, many subsequent decisions have simplified that test and focused merely on the issue of predictability.

¶17 *In re Vaeck* suggests that, regardless of whether a case falls within the predictable or unpredictable arts, the specific technology must still be examined.<sup>20</sup> In *Vaeck*, the claimed invention was directed to the production of proteins that are toxic to mosquito and black fly larvae.<sup>21</sup> The protein was produced by hosting them in cyanobacteria.<sup>22</sup> Although the claims at issue were directed to cyanobacteria generally, the specification mentioned only nine genera of cyanobacteria and described only one particular species of cyanobacteria in the working example.<sup>23</sup>

¶18 The United States Patent and Trademark Office (“Patent Office”) rejected the claims for lack of enablement. On appeal, the Federal Circuit noted that the “molecular biology of [cyanobacteria] has only recently become the subject of intensive investigation and this work is limited to a few genera. Therefore the level of unpredictability . . . is high.”<sup>24</sup> The Federal Circuit went on to affirm the enablement rejection, explaining that “[t]here is no reasonable correlation between the narrow disclosure in appellants’ specification and the broad scope of protection sought in the claims encompassing gene expression in any and all cyanobacteria.”<sup>25</sup>

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<sup>15</sup> 427 F.2d at 839; *see also* *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1367 (Fed. Cir. 1997) (stating that, in the context of an “unpredictable technology in the early stages of development, an enabling description in the specification must provide those skilled in the art with a specific and useful teaching”).

<sup>16</sup> 858 F.2d 731, 737 (Fed Cir. 1988).

<sup>17</sup> *Id.* (citing *Hybritech*, 802 F.2d at 1384 and *Atlas Powder Co. v. E. I. DuPont de Nemours & Co.*, 750 F.2d 1569, 1576 (Fed. Cir. 1984)).

<sup>18</sup> *Id.*

<sup>19</sup> *Id.* (citing *In re Forman*, 230 U.S.P.Q. (BNA) 546, 547 (B.P.A.I. 1986)).

<sup>20</sup> 947 F.2d 488 (Fed. Cir. 1991).

<sup>21</sup> *Id.* at 489.

<sup>22</sup> *Id.*

<sup>23</sup> *Id.* at 495 (stating that there are approximately 150 genera of cyanobacteria).

<sup>24</sup> *Id.* at 493.

<sup>25</sup> *Id.* at 495.

¶19 However, the Court cautioned against applying its holding to all patent applications in the “unpredictable” arts:

[W]e do *not* imply that patent applicants in art areas currently denominated as “unpredictable” must never be allowed generic claims encompassing more than the particular species disclosed in their specification. It is well settled that patent applicants are not required to disclose every species encompassed by their claims, even in an unpredictable art.<sup>26</sup>

¶20 Thus, although the Federal Circuit found that a specification describing a single embodiment was insufficient to enable the broad claims in *Vaeck*, the decision also suggested that such a disclosure could be sufficient in other circumstances—even in the unpredictable arts.<sup>27</sup>

### C. *In re Wright and the Full Scope of a Claim*

¶21 From an analytical perspective, *In re Wright*<sup>28</sup> is not a particularly noteworthy case. It is a decision in the unpredictable arts that uses the same kind of analysis as *Vaeck* to arrive at a similar result. However, from a historical perspective, *Wright* is important because it appears to be the first decision to characterize § 112 as requiring enablement of the “full scope of the claimed invention.”<sup>29</sup>

¶22 In *Wright*, the patent application described the production of a recombinant vaccine that confers immunity in chickens against the RNA tumor virus known as Prague Avian Sarcoma Virus. The application contained claims directed to the specific process and vaccine disclosed in the specification.<sup>30</sup> The application, however, also sought claims for a much broader scope of protection, including claims that read “on vaccines against *all* pathogenic RNA viruses.”<sup>31</sup> The Patent Office rejected the broader claims on the grounds that the specification did not enable the full scope of the claims.

¶23 In reviewing the Patent Office’s decision, the Federal Circuit described the enablement requirement: “Although not explicitly stated in section 112, to be enabling, the specification of a patent must teach those skilled in the art how to make and use the *full scope* of the claimed invention without ‘undue experimentation.’”<sup>32</sup>

¶24 The decision cited *Vaeck*, *Wands*, and *Fisher*. However, none of these decisions use the term “full scope,” nor does *Wright* actually focus on that language in its analysis. Rather the Federal Circuit upheld the enablement rejection based on a straightforward application of the enablement requirement. The decision explained that, “*Wright* has failed to establish by evidence or arguments that . . . a skilled scientist would have believed reasonably that *Wright*'s success with a particular strain of an avian RNA virus could be extrapolated with a reasonable expectation of success to other avian RNA viruses.”<sup>33</sup> Predictability was an important factor in the outcome. The Court noted that the claims at issue encompassed AIDS vaccines and that, “because of the high degree of genetic, antigenic variations in such viruses, no one ha[d] yet . . . developed a generally successful

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<sup>26</sup> *Id.* (emphasis in original) (citing *In re Angstadt*, 537 F.2d 498, 502-03 (C.C.P.A. 1976)).

<sup>27</sup> *Id. See, e.g.*, *Johns Hopkins Univ. v. CellPro, Inc.*, 152 F.3d 1342 (Fed. Cir. 1998). The claims at issue were drawn to the genus of antibodies that bind to the claimed antigen. The defendant, Cellpro, argued that the specification only disclosed the method of producing the anti-My-10 antibody and thus did not enable the claims that covered the entire genus. *Id.* at 1359. The Court rejected the enablement defense in part based on an expert declaration stating that the expert was able to produce six antibodies using the disclosed method. *Id.* at 1361.

<sup>28</sup> 999 F.2d 1557 (Fed. Cir. 1993).

<sup>29</sup> *Id.* at 1561 (emphasis added).

<sup>30</sup> *Id.* at 1559.

<sup>31</sup> *Id.* at 1560 (emphasis in original).

<sup>32</sup> *Id.* at 1561 (emphasis added) (citing *In re Vaeck*, 947 F.2d 488, 495 (Fed. Cir. 1991); *In re Wands*, 858 F.2d 731, 736 (Fed. Cir. 1988); and *In re Fisher*, 427 F.2d 833, 839 (C.C.P.A. 1970) ).

<sup>33</sup> *Id.* at 1564.

AIDS virus vaccine.”<sup>34</sup> In sum, the Federal Circuit found that the broad claims of an unpredictable technology were not enabled even though the specification had clearly enabled one embodiment.

¶25 This unremarkable decision serves as the foundation of the analysis for *Liebel-Flarsheim*, *Automotive Technologies* and *Sitrick* because of the particular way it characterized the enablement standard. Although many decisions cite *Wright* for the proposition that the “full scope of the claims” must be enabled,<sup>35</sup> those cases do not focus on the phrase in the same manner as *Liebel-Flarsheim*, *Automotive Technologies* and *Sitrick*.

*D. The Bright Line Test: Enabling a Single Embodiment is Sufficient*

¶26 As shown above, describing one embodiment is often insufficient to enable broad claims in the unpredictable arts. In contrast, decisions in the predictable arts have found that describing one embodiment satisfies the enablement requirement even when the claims are much broader. In contrast to *Fisher*, *Wands*, and *Vaech*, these decisions appear to apply a bright line rule suggesting that describing a single embodiment is always sufficient to satisfy the enablement requirement.

¶27 In *Spectra-Physics, Inc. v. Coherent, Inc.*, the ion laser patents stressed the importance of attaching two components that would have to endure repeated heat cycles.<sup>36</sup> That feature was evident in the claims at issue which required a “means for attaching” or essentially the same step of “permanently securing.”<sup>37</sup> The district court found that claims were not enabled because the specification only disclosed pulse soldering and moly-manganese brazing. However, the evidence showed that the patentee actually used a six stage braze cycle that was “necessary to the enjoyment of the invention.”<sup>38</sup> The Federal Circuit reversed the lack of enablement finding and stated:

If an invention pertains to an art where the results are predictable, e.g., mechanical as opposed to chemical arts, a broad claim can be enabled by disclosure of a single embodiment and is not invalid for lack of enablement simply because it reads on another embodiment of the invention which is *inadequately disclosed*.<sup>39</sup>

Thus, *Spectra-Physics* stands for the proposition that in the predictable arts, disclosure of a single embodiment is sufficient to enable a much broader claim that is not taught. That is true even if the claim reads on embodiments that are inadequately disclosed.

¶28 In 1991, four years after *Spectra-Physics*, the Federal Circuit began reciting this rule without limiting it to the predictable arts. In *Engel Industries, Inc. v. Lockformer Co.*,<sup>40</sup> the primary issue was whether the patentee properly disclosed the best mode. However, the decision also addressed enablement. In one brief paragraph with no analysis, the *Engel* decision rejected the enablement defense by reciting the following rule: “The enablement requirement is met if the description enables *any mode* of making and using the claimed invention.”<sup>41</sup>

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<sup>34</sup> *Id.* at 1562.

<sup>35</sup> See, e.g., *Chiron Corp. v. Genentech, Inc.*, 363 F.3d 1247, 1253 (Fed. Cir. 2004); *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1365 (Fed. Cir. 1997).

<sup>36</sup> *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1529 (Fed. Cir. 1987).

<sup>37</sup> *Id.* at 1533.

<sup>38</sup> *Id.*

<sup>39</sup> *Id.* (emphasis added) (citations omitted) (citing *Gould v. Mossinghoff*, 711 F.2d 396, 400 (D.C. Cir. 1983) (labeling the rule “settled”)); see also *In re Vickers*, 141 F.2d 522 (C.C.P.A.1944). In *Spectra-Physics*, the Court upheld the district court’s invalidity finding on the alternative ground of failing to disclose the best mode. 827 F.2d at 1537. Arguably, this makes the decision reversing the enablement finding dicta. However, the Court expressly discussed its decision on enablement as a holding. *Id.* at 1538. But see Pierre N. Leval, *Judging Under the Constitution: Dicta About Dicta*, 81 N.Y.U. L. REV. 1249, 1257 (2006) (“dictum is not converted into holding by forceful utterance, or by preceding it with the words ‘We hold that . . .’”).

<sup>40</sup> 946 F.2d 1528 (Fed. Cir. 1991).

<sup>41</sup> *Id.* at 1533 (emphasis added) (citing *Chemcast Corp. v. Arco Indus. Corp.*, 913 F.2d 923, 926 (Fed. Cir. 1990)). However, *Chemcast* does not address the issue of whether disclosing a single embodiment can satisfy the enablement requirement.

¶29 The technology in *Engel* resided in the predictable arts: connecting duct segments that distribute air through buildings.<sup>42</sup> However, unlike *Spectra-Physics*, *Engel* did not qualify the rule recited above by suggesting that it only applied to the predictable arts. If *Engel* stood by itself, it probably could be overlooked as a poorly considered outlier. However, numerous subsequent Federal Circuit decisions have cited *Engel* for the rule quoted above.<sup>43</sup> These decisions are even found in the unpredictable arts.

¶30 For example, in *Invitrogen Corp. v. Clontech Labs, Inc.*, the patents were in the field of molecular biology, which is generally considered to be an unpredictable art.<sup>44</sup> The claims in suit covered genetically engineered reverse transcriptase (RT) and were not limited by how the genes were mutated.<sup>45</sup> Defendant Clontech made at least one accused product by point mutation and argued that the patents' common specification only described how to implement the invention using deletion mutation.<sup>46</sup> Since the claims encompassed point-mutated RT without disclosing that method, Clontech argued that the claims were not enabled.<sup>47</sup>

¶31 After recognizing that, "[s]ection 112 requires that the patent specification enable 'those skilled in the art to make and use the *full scope* of the claimed invention,'"<sup>48</sup> the Federal Circuit rejected Clontech's enablement defense. The Federal Circuit repeated the district court's recitation of the *Engel* rule, "[t]he enablement requirement is met if the description enables any mode of making and using the claimed invention,"<sup>49</sup> and explained that the patentee's "teaching regarding deletion mutation is sufficient to satisfy its part of the patent bargain, as it fully teaches a mode of making the claimed invention."<sup>50</sup> The Federal Circuit even went so far as to suggest that Clontech's enablement defense "might have [had] force had Invitrogen limited its claims to modified RT by reference to point mutation."<sup>51</sup> In other words, the specification might not enable one specific embodiment (point mutation), but the broader claim is enabled because the specification taught another embodiment (deletion mutation).

¶32 *Invitrogen* represents the furthest extension of *Spectra-Physics*. It is a relatively recent decision, from 2005, in the unpredictable arts that finds the enablement requirement satisfied based on the description of a single embodiment. The decision even suggests that other embodiments that fall within the scope of the claim might not be enabled. Thus, *Invitrogen* represents a bright line rule, not the nuanced multi-factor approach advanced by *In re Wands*. Finally, *Invitrogen* even mentions that the full scope of the claim must be enabled, but interprets that requirement in much different manner than the three recent decisions discussed in the next section.

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<sup>42</sup> *Engel*, 946 F.2d at 1529-30.

<sup>43</sup> See, e.g., *CMFT, Inc. v. Yieldup Int'l Corp.*, 349 F.3d 1333, 1338 (Fed. Cir. 1991); *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1335 (Fed. Cir. 2003) ("[T]he law makes clear that the specification need teach only one mode of making and using a claimed composition." (quoting *Amgen, Inc. v. Hoechst Marion Roussel, Inc.*, 126 F. Supp. 2d 69, 160 (D. Mass. 2001))); *Johns Hopkins Univ. v. CellPro, Inc.*, 152 F.3d 1342, 1361 (Fed. Cir. 1998) (holding that "CellPro can carry its burden only by showing that all of the disclosed alternative modes are insufficient to enable the claims, because '[t]he enablement requirement is met if the description enables any mode of making and using the invention'").

<sup>44</sup> 429 F.3d 1052, 1058 (Fed. Cir. 2005).

<sup>45</sup> *Id.* at 1070.

<sup>46</sup> *Id.* Apparently, Invitrogen disagreed with Clontech on the facts, but the Court never ruled on whether the specification disclosed point mutation.

<sup>47</sup> *Id.*

<sup>48</sup> *Id.* (emphasis added) (citations omitted).

<sup>49</sup> *Id.* at 1071 (quoting *Johns Hopkins Univ. v. CellPro, Inc.*, 152 F.3d 1342, 1361 (Fed. Cir. 1998)) (citing *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1335 (Fed. Cir. 2003); *Engel Indus., Inc. v. Lockformer Co.*, 946 F.2d 1528, 1533 (Fed. Cir. 1991)).

<sup>50</sup> *Id.*

<sup>51</sup> *Id.*

### III. EMPOWERING THE ENABLEMENT DEFENSE

¶33 In 2007 and 2008, the Federal Circuit issued three decisions that are at odds with *Spectra-Physics*, *Engel* and *Invitrogen: Liebel-Flarsheim, Automotive Technologies*, and *Sitrick*. These cases made it significantly easier for defendants to raise a lack of enablement defense. As discussed earlier, *Wright* had characterized enablement as requiring a patent to teach the full scope of the claimed invention. That had become part of the standard recitation of enablement, but the three recent enablement decisions brought a new focus on the meaning of “full scope.” They require that different embodiments that fall within the scope of a claim all be enabled and, unlike *Wands*, *Vaeck*, and *Wright*, they require it in the predictable arts.<sup>52</sup>

#### A. *The Prequel*, AK Steel

¶34 *Liebel-Flarsheim, Automotive Technologies*, and *Sitrick* trace their doctrinal roots from *In re Wright* via *AK Steel Corp. v. Sollac*.<sup>53</sup> *AK Steel* is not controversial because its outcome is consistent with our sense of justice. The claims at issue were found invalid because they covered subject matter that the patentee expressly disclaimed.

¶35 In *AK Steel*, the inventors purported to describe a new way to make hot-dipped aluminum-coated stainless steel.<sup>54</sup> The inventors discovered that maintaining heated steel strips in a hydrogen atmosphere before dipping them in aluminum allowed the aluminum to adhere or “wet” well on the steel.<sup>55</sup> The patent specification discussed the prior art as using aluminum coatings that contained ten percent by weight silicon. It also explained that the invention did not work well with this type of aluminum because it did not wet well. Despite this apparent disclaimer, the independent claim at issue did not limit the type of aluminum coating metal used, and the dependent claims stated that aluminum coating metal contained up to about ten percent by weight silicon.<sup>56</sup> In a Judge Lourie opinion, the Federal Circuit found that a person of ordinary skill would not have been enabled to make the claimed steel strip. Specifically, the decision concluded that “the specification is inadequate as a matter of law in that regard primarily because it expressly teaches against it.”<sup>57</sup>

¶36 *AK Steel* is not controversial because its outcome is intuitively correct. Claims that cover material disclaimed in the specification should not be upheld. However, *AK Steel*'s invalidity finding should not have been based on the enablement requirement. The specification discussed aluminum coatings that contain ten percent by weight silicon, albeit as the prior art. Thus, there was a reasonable basis for concluding that the specification did enable a person of ordinary skill to make the claimed steel strips using ten percent by weight silicon. The better basis for an invalidity finding would have been 35 U.S.C. § 112 ¶ 2 which requires that “[t]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.”<sup>58</sup> Clearly, the applicant believed that its invention did not

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<sup>52</sup> Typically, mechanical and electrical technology are both classified as falling within the predictable arts while technology involving chemical reactions and physiological activity fall within the unpredictable arts. See, e.g., *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1533 (Fed. Cir. 1987); *In re Fisher*, 427 F.2d 833, 839 (C.C.P.A. 1970). *Liebel-Flarsheim, Automotive Technologies*, and *Sitrick* concerned front loading fluid injectors, side impact sensors for cars, and integrating audio and video images into preexisting content, respectively. The front loading fluid injector involved mechanical components. The side impact sensor involved both mechanical and electrical components. The integration technology involved electrical components and software.

<sup>53</sup> 344 F.3d 1234 (Fed. Cir. 2003).

<sup>54</sup> Aluminum-coated stainless steel resists corrosion and high temperature oxidation. *Id.* at 1236.

<sup>55</sup> *Id.*

<sup>56</sup> *Id.* at 1237 (reciting independent claim 1 and dependent claims 3, 5 and 7).

<sup>57</sup> *Id.* at 1244.

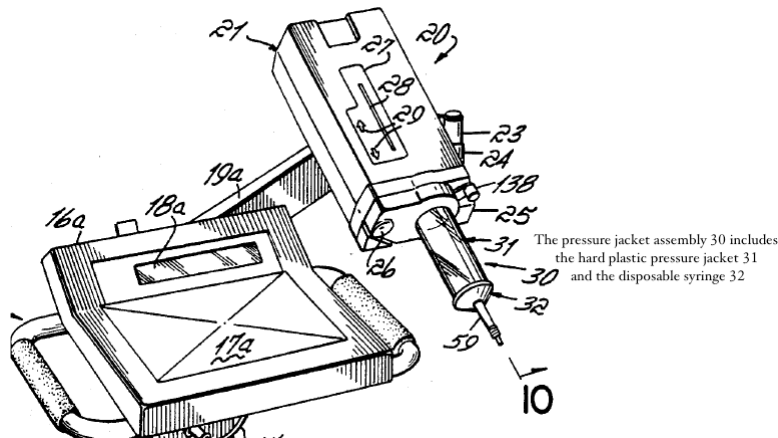
<sup>58</sup> See, e.g., *Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1349 (Fed. Cir. 2002) (finding claims invalid under § 112 ¶ 2 because “a simple comparison of the claims with the specification” showed that the inventor did not regard the claims to be his



include using aluminum coating metal containing ten percent by weight silicon because that material did not wet well. Since *AK Steel* did not have to rely (and probably should not have relied) on the enablement requirement to invalidate the claims at issue, it could have simply found that claims did not reflect what the inventors regarded as their invention.

B. Liebel-Flarsheim

¶37 In *Liebel-Flarsheim*, the invention was a front-loading fluid injector system with a replaceable syringe capable of withstanding high pressure for delivering a contrast agent to a patient.<sup>59</sup> The specification only described an injector with a pressure jacket but the asserted claims did not mention the pressure jacket. As a result, the Court construed the claims to include an injector with or without a pressure jacket.<sup>60</sup>



¶38 However, the breadth of the claim led to a lack of enablement finding. In another Judge Lourie opinion, the Federal Circuit found that there was no enablement of a fluid injector without a pressure jacket. Therefore, the specification failed to enable the full scope of the claim. The decision focused on two facts. First, the specification only described an injector with a pressure jacket and there was no guidance on how to make or use a system without a pressure jacket.<sup>61</sup> The specification even taught away from a pressure-jacketless system by calling it “expensive and therefore impractical” in the context of a disposable syringe.<sup>62</sup> Second, the Court noted that “[t]he inventors admitted that they tried unsuccessfully to produce a pressure-jacketless system and that such a system would have required more extensive experimentation and testing.”<sup>63</sup>

¶39 The Court in *Liebel-Flarsheim* distinguished *Spectra-Physics* by arguing that the specification in *Spectra-Physics* somehow enabled a person of skill in the art to make the invention as broadly as it was claimed. It is unclear how the Court arrived at this conclusion. *Spectra-Physics* never discusses whether a person of ordinary skill in the art could use the specification to make and use the undisclosed six-step braze cycle without undue experimentation. Judge Lourie’s characterization of *Spectra-Physics* appears to attempt to reconcile his decision with previous case law, as opposed to directly challenge it. This is somewhat surprising given that Judge Lourie also cited *Engel* without

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invention); *Solomon v. Kimberly-Clark Corp.*, 216 F.3d 1372, 1377 (Fed. Cir. 2000) (discussing how § 112 ¶ 2 has two requirements: claims must set forth what the inventor regards as his invention and claims must be sufficiently definite).

<sup>59</sup> *Liebel-Flarsheim Co. v. Medrad*, 481 F.3d 1371, 1373 (Fed. Cir. 2007).

<sup>60</sup> *Id.* at 1375. The claim construction was actually the subject of an earlier appeal. *See Liebel-Flarsheim Co. v. Medrad (Liebel I)*, 358 F.3d 898, 901 (Fed. Cir. 2004). Ironically, in *Liebel I*, the plaintiff successfully sought the broad claim construction that resulted in a finding of lack of enablement in the appellate decision. Indeed, Judge Lourie seemed to take some delight in the outcome by reciting the motto “beware of what one asks for.” 481 F.3d at 1380.

<sup>61</sup> *Liebel-Flarsheim*, 481 F.3d at 1379.

<sup>62</sup> *Id.*

<sup>63</sup> *Id.*

any discussion.<sup>64</sup> Recall that *Engel* also held that enabling a single embodiment satisfies the enablement requirement.

¶40 Judge Lourie concluded that the facts of *Liebel-Flarsheim* were more analogous to *AK Steel* than to *Spectra-Physics*.<sup>65</sup> In both cases, the specifications taught away from subject matter covered by those claims. If *Liebel-Flarsheim* and *AK Steel* stood for the proposition that a claim is invalid when it covers subject matter disclaimed by the patentee, they would have been a footnote in the history of enablement, special cases that lead to just results.<sup>66</sup> However, *Liebel-Flarsheim* relied on *AK Steel* for the proposition that “as part of the *quid pro quo* of the patent bargain, the applicant's specification must enable one of ordinary skill in the art to practice the *full* scope of the claimed invention.”<sup>67</sup> It is the focus on that phrase, “full scope,” that allows *Automotive Technologies* and *Sitrick* to extend the rule to claims that do more than simply cover disclaimed subject matter.

### C. Automotive Technologies

¶41 In the next opinion, *Automotive Technologies*, Judge Lourie applied the full scope analysis more generally. The invention was a new type of side impact sensor for use in vehicles. The prior art used a crush sensor for sensing side impacts.<sup>68</sup> The patented side impact sensor used a velocity-based sensor which had the advantage of sensing an impact even when the side was not directly hit.<sup>69</sup> During the prosecution of the patent, the patentee explained that this feature was the “essential concept of the invention” and called it a “breakthrough.”<sup>70</sup>

¶42 The specification provided a detailed description of how to make a mechanical side impact sensor and included diagrams of several embodiments. It also noted that an electronic sensor could be used, but only provided a conceptual diagram.<sup>71</sup> The claims at issue were generic and not limited to a mechanical velocity-based sensor. They also covered electronic velocity-based sensors. The Federal Circuit once again found each claim at issue was invalid for failing to enable the full scope of the claim.

¶43 In arriving at its decision, the Court focused on one embodiment that fell within the scope of the claims—an electronic velocity-based sensor. The plaintiff, Automotive Technologies International (“ATI”) offered an expert declaration that explained why “one skilled in the art would know how to adapt then-existing technology to create an electronic side impact sensor” and stating “that electronic sensors were commercially available” and could be incorporated into the claims.<sup>72</sup> Although the case law has allowed a patentee to use the knowledge of a person of ordinary skill in the art to help show enablement,<sup>73</sup> Judge Lourie found that this knowledge was not germane to the facts of the case. He reasoned that since “[t]he novel aspect of this invention is using a velocity-type sensor for side impact sensing,” it was insufficient to “merely state that known

<sup>64</sup> *Id.*

<sup>65</sup> *Id.* at 1380.

<sup>66</sup> In light of the three recent enablement cases, Sean B. Seymore warns against disparaging an embodiment that falls within the scope of the claim because these statements can suggest that the “disparaged embodiment was nonenabled at the time of filing.” See Sean B. Seymore, *The Enablement Pendulum Swings Back*, 6 NW. J. TECH. & INTELL. PROP. 278, 290-91 (2008).

<sup>67</sup> *Liebel-Flarsheim*, 481 F.3d at 1380 (citing *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1244 (Fed. Cir. 2003)) (emphasis added in *Liebel-Flarsheim*).

<sup>68</sup> *Auto. Techs. Int'l, Inc. v. BMW of N. Am., Inc.*, 501 F.3d 1274, 1277 (Fed. Cir. 2007).

<sup>69</sup> *Id.*

<sup>70</sup> *Id.* at 1283.

<sup>71</sup> *Id.* at 1278.

<sup>72</sup> *Id.* at 1284.

<sup>73</sup> See, e.g., *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1366 (Fed. Cir. 1997) (“a specification need not disclose what is well known in the art”); *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1234 (Fed. Cir. 2003) (“That is not to say that the specification itself must necessarily describe how to make and use every possible variant of the claimed invention, for the artisan's knowledge of the prior art and routine experimentation can often fill gaps, interpolate between embodiments, and perhaps even extrapolate beyond the disclosed embodiments, depending upon the predictability of the art.”).

technologies can be used to create an electronic sensor.”<sup>74</sup> The Court also rejected that declaration as conclusory.<sup>75</sup> But the Court’s analysis suggests that a better supported declaration would not have changed the outcome.

¶44 Interestingly, ATT’s brief cited *Invitrogen* for the proposition that enabling one mode satisfies the enablement requirement.<sup>76</sup> However, the *Automotive Technologies* decision does not mention *Invitrogen*, let alone distinguish it. Rather, Judge Lourie merely alludes to ATT’s argument generally and states that “we addressed and rejected a similar argument made in *Liebel-Flarsheim*.”<sup>77</sup>

¶45 In sum, *Automotive Technologies* demonstrates that the full scope requirement is not limited to cases, like *Liebel-Flarsheim* and *AK Steel*, where the patentee has disclaimed subject matter that falls within the scope of claim. Moreover, *Automotive Technologies* takes the rule one step further and states that the patentee cannot rely on what a person of ordinary skill in the art would know to fill in gaps when those gaps relate to the novel aspect of the invention.

#### D. Sitrick

¶46 In *Sitrick*, the patents involved integrating a user’s audio signal or visual image into a preexisting video game or movie. The specifications described specific videogame signals and disclosed how an Intercept Adapter Interface System would select, analyze, and identify characters.<sup>78</sup> The specifications also generally discussed how the same techniques would work for movies.<sup>79</sup> The asserted claims covered both video games and movies.<sup>80</sup> Again, the Federal Circuit found that the asserted claims were invalid for lack of enablement because the specification did not enable the full scope of the claimed invention.

¶47 In arriving at its decision, the Federal Circuit noted that “[m]ovies do not have easily separable character functions, as video games do” and the specification did not teach how to obtain those functions from a movie.<sup>81</sup> Moreover, the defendants’ expert explained the disclosed analysis techniques were not applicable to movies.<sup>82</sup>

¶48 *Sitrick* was authored by Judge Moore and it shows that *Liebel-Flarsheim* and *Automotive Technologies* do not simply represent the personal views of Judge Lourie. Broad claims that are supported by a description of only one embodiment are at risk. Indeed, the *Sitrick* decision said that it did not even need to determine whether the specification was enabled with respect to video games. If the claims were not enabled for movies as well, the broad claims were invalid.<sup>83</sup>

¶49 The three recent enablement cases (and *AK Steel*) take a fundamentally different approach than the earlier enablement decisions. Although *Liebel-Flarsheim* and *Automotive Technologies* cited *Wands*, they did not consider the *Wands* factors, much less discuss predictability.<sup>84</sup> By the time it decided *Sitrick*, the Court did not even mention *Wands*. Instead, in each of these cases, the Federal Circuit recited the full scope rule, identified a non-enabled embodiment that fell within the scope of the

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<sup>74</sup> *Auto. Techs. Int’l, Inc. v. BMW of N. Am., Inc.*, 501 F.3d 1274, 1278 (Fed. Cir. 2007).

<sup>75</sup> *Id.* at 1284-85.

<sup>76</sup> See Opening Brief of Plaintiff/Appellant Automotive Technologies International, Inc. at 24, *Auto. Techs. Int’l, Inc. v. BMW of N. Am., Inc.*, 501 F.3d 1274 (Fed. Cir. 2007) (Nos. 2006-1013, 2006-1037).

<sup>77</sup> *Auto. Techs.*, 501 F.3d at 1285 (citations omitted).

<sup>78</sup> *Sitrick v. Dreamworks, L.L.C.*, 516 F.3d 993, 997 (Fed. Cir. 2008).

<sup>79</sup> *Id.* at 997-98.

<sup>80</sup> *Id.* at 1000.

<sup>81</sup> *Id.* (quoting *Sitrick v. Dreamworks, L.L.C.*, 2006 U.S. Dist. LEXIS 97312, at \*82-83 (C.D. Cal. July 20, 2006)).

<sup>82</sup> *Id.*

<sup>83</sup> *Id.*

<sup>84</sup> The district courts in *Liebel-Flarsheim*, and *Automotive Technologies* applied the *Wands* factors, but the Federal Circuit decisions did not analyze them. *Liebel-Flarsheim Co. v. Medrad*, 481 F.3d 1371, 1375 (Fed. Cir. 2007); *Auto. Techs. Int’l, Inc. v. BMW of N. Am., Inc.*, 501 F.3d 1274, 1280 (Fed. Cir. 2007).

claims, and concluded that the claims at issue were invalid. Interestingly, the embodiments that the Federal Circuit relied upon were all mentioned in the specification of the patents at issue.

#### IV. THE SPLIT

¶50 Even before *Liebel-Flarsheim*, *Automotive Technologies*, and *Sitrick*, the Federal Circuit was split. On the one hand, *Spectra-Physics*, *Engel* and *Invitrogen* stated that enabling any embodiment satisfies the enablement requirement regardless of the breadth of the claims. Even those cases were somewhat fractured, however, because *Spectra-Physics* limited the rule to the predictable arts while *Engel* and *Invitrogen* did not.

¶51 On the other hand, under *Wands*, *Vaeck*, and *Wright*, describing a single embodiment might not be sufficient to enable broad claims because those cases required a correspondingly more detailed disclosure to show that a person of ordinary skill in the art could use or practice the claimed invention. Enablement was evaluated based on a number of different factors, including predictability. However, these decisions were all found in the unpredictable arts. Thus, even under this line of cases, it was unclear whether disclosing a single embodiment would generally satisfy the enablement requirement in the predictable arts. *AK Steel* suggested the answer was no, but that decision dealt with a special case—claims covering subject matter that the patentee disclaimed.

¶52 *Liebel-Flarsheim*, *Automotive Technologies*, and *Sitrick* rely on the second line of cases and demonstrate that in the predictable arts, disclosing a single embodiment will not automatically satisfy the enablement requirement. *Liebel-Flarsheim*, *Automotive Technologies*, and *Sitrick* require exploring the full scope of a claim and confirming that the specification enables everything found within that scope.

##### *A. An Odd Split*

¶53 Unlike many other splits, this does not appear to be a situation where one set of judges favors one theory and another set favors a second theory. If we examine the panels to determine which judges were responsible for recent opinions that illustrate the conflict, we arrive at some surprising results.

¶54 Below, the left-hand column lists three Federal Circuit decisions that state that reciting a single embodiment satisfies the enablement requirement. The list omits *Spectra-Physics* because it was decided in 1987 and only Judge Archer is still sitting on the bench. *Johns Hopkins* demonstrates the strange split. Judge Lourie authored the opinion in *Johns Hopkins*, but he also appears to be the primary proponent of the enablement standard advanced in the conflicting decisions. The right-hand column lists the three recent Federal Circuit decisions that raise the enablement requirement in the predictable arts.

*Engel* (1991)  
Judges Newman\*, Michel, Plager

*Liebel-Flarsheim* (2007)  
Judges Lourie\*, Rader, Bryson

*Johns Hopkins* (1998)  
Judges Lourie\*, Smith, Schall

*Automotive Technologies* (2007)  
Judges Lourie\*, Rader, Prost

*Invitrogen* (2005)  
Judges Gajarsa\*, Michel, Rader

*Sitrick* (2008)  
Judges Moore\*, Michel, Rader

\* indicates the author of the opinion

¶55 This table shows that at least three judges—Judges Lourie, Michel, and Rader—have been responsible for decisions on both sides of the split. Interestingly, there have been no dissents in any of the cases listed above.

*B. The Choices*

¶56 As a threshold matter, the Federal Circuit needs to acknowledge that it has a split in its decisions. *Spectra-Physics*, *Engel*, and *Invitrogen* cannot be reconciled with *Liebel-Flarsheim*, *Automotive Technologies*, and *Sitrick*. Once the Federal Circuit acknowledges the split, it will have the choice of either following the new rule or taking a step back and selecting one of the older lines of cases. In sum, the Court's choices are:

1. Follow *Liebel-Flarsheim*, *Automotive Technologies*, and *Sitrick*: enablement requires examining the full scope of the claim to determine whether every embodiment that falls within that scope is enabled. This rule applies regardless of whether the technology is classified as predictable or unpredictable. This article will refer to this as the “full scope rule.”

2. Follow *Wands*: the enablement requirement is evaluated by looking at number of factual considerations, including predictability. Enabling a single embodiment does not necessarily satisfy the enablement requirement. Nor does the patent have to enable every embodiment that falls within the scope of the claim. This article will refer to this as the “*Wands* rule.”

3. Follow *Engel* and *Invitrogen*: the enablement requirement is satisfied if any embodiment is enabled. Again, this rule is not affected by the type of technology involved. This article refers to this as the “single embodiment rule.”

4. Follow *Spectra-Physics*: apply the “full scope rule” in the unpredictable arts and the “single embodiment rule” in the predictable arts.<sup>85</sup> This article refers to this as the “blended rule.” In practice, this is probably the rule that existed before the three recent enablement cases.

## V. EVALUATING THE FULL SCOPE RULE

¶57 To evaluate the new full scope rule, we must first understand why the enablement requirement exists. The enablement requirement ensures that an inventor is rewarded with a patent only if he or she describes the invention in sufficient detail to enable a person of ordinary skill in the art to make and use the invention.<sup>86</sup> This serves two purposes. First, it ensures that an inventor actually understands how to make and use the invention and does not simply possess the germ of an idea.<sup>87</sup> Second, it ensures that the inventor fulfills his part of the bargain by teaching the public how to practice the invention in exchange for a limited monopoly.<sup>88</sup> However, the current analysis assumes that the inventor has already satisfied these goals to some limited extent. In other words, by enabling a single embodiment that falls within the scope of the patent's claims, the public is

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<sup>85</sup> This rule should be flexible enough to account for the fact that some technology in the traditionally unpredictable arts can be predictable and some technology in the traditionally predictable arts can be unpredictable.

<sup>86</sup> “To insure adequate and full disclosure so that upon the expiration of the 17-year period ‘the knowledge of the invention enures [sic] to the people, who are thus enabled without restriction to practice it and profit by its use,’ *United States v. Dubilier Condenser Corp.*, 289 U.S. 178, 187 (1933), the patent laws require that the patent application shall include a full and clear description of the invention and ‘of the manner and process of making and using it’ so that any person skilled in the art may make and use the invention.” *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480-81 (1974) (citing 35 U.S.C. § 112).

<sup>87</sup> *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1366 (Fed. Cir. 1997) (“Tossing out the mere germ of an idea does not constitute enabling disclosure.”).

<sup>88</sup> *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1244 (Fed. Cir. 2003).

assured that the inventor understands how to make and use at least one embodiment and has taught the public to do the same.

¶58 The question then becomes how broad the inventor may make her claim.<sup>89</sup> From an economic perspective, an unduly narrow patent may allow competition to undermine the incentive to innovate. However, unduly broad claims may stifle competition.<sup>90</sup> Before *Liebel-Flarsheim*, *Automotive Technologies*, and *Sitrick*, the FTC concluded that the “current disclosure doctrines” satisfy these goals reasonably well.<sup>91</sup> Specifically, with respect to enablement, the FTC endorsed a standard that analyzes both undue experimentation and predictability:

When considerable experimentation is necessary, follow-on innovation is likely to be costly; the more stringent enablement requirements that follow from greater need to experiment reduce the breadth of the initial innovator’s patent, and expand the rewards potentially available to follow-on innovators. Similarly, less predictability makes follow-on innovation more costly; again the more stringent enablement requirements that follow reduce the breadth of the initial patent and provide opportunities for expanded follow-on rewards.<sup>92</sup>

¶59 As discussed earlier, *Liebel-Flarsheim*, *Automotive Technologies*, and *Sitrick* are part of a growing number of decisions that curtail patent holders rights. Obviously, courts should not take the anti-patentee position on every doctrine simply because they perceive that patent holders’ rights have grown too strong. Courts still need to examine each doctrine to see if it is unfairly skewed in favor of one side. The premise underlying *Liebel-Flarsheim*, *Automotive Technologies*, and *Sitrick* is that claims in the predictable arts have become too broad and unfairly stifle competition. The remainder of this article attempts to evaluate the full scope rule and determine how successfully it can address this concern as well as whether the rule creates other problems.

#### *A. Full Scope: Trap for the Unwary*

¶60 The goal in *Liebel-Flarsheim*, *Automotive Technologies*, and *Sitrick* was undoubtedly to prevent patentees from claiming their inventions too broadly. However, a good test for determining whether the full scope rule satisfies this goal is to see how it separates valid claims from invalid claims. These three recent decisions applied the full scope rule to the easiest fact pattern—specifications that actually identify the non-enabled embodiment. In each of these decisions, the specifications provided a detailed discussion of one embodiment but mentioned other possible embodiments. In *Liebel-Flarsheim*, the “other” embodiment was a fluid injector without a pressure jacket. In *Automotive Technologies*, it was an electronic sensor, and in *Sitrick*, it was movies.

¶61 Given that the claims were plainly drafted with the intent to cover these “other” embodiments, it seems fair to insure that the patent specification actually teaches the public to make and use them. This requirement does force the inventor to expend additional effort in providing a more detailed description. If the inventor is required to fully enable only the embodiments identified in the specification, however, the burden is limited because the task is discrete. Thus, applying the full scope rule to other embodiments that are identified in the specification comports with notions of fairness.<sup>93</sup>

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<sup>89</sup> See INNOVATION, *supra* note 1, at 20 (“Frequently, much will be learned and developed after an initial invention is made: follow-on innovations will occur, and new uses will be found. The question then becomes, how many of these subsequent developments ought to be ascribed to the initial inventor and made subject to his or her patent?”).

<sup>90</sup> See *id.* at 23; Suzanne Scotchmer, *Standing on the Shoulders of Giants: Cumulative Research and the Patent Law*, 5 J. ECON. PERSP. 29 (noting that overbroad patents can also discourage competition in the market for technologies that improve upon the patented invention).

<sup>91</sup> See INNOVATION, *supra* note 1, at 24. This statement described all three disclosure doctrines together: enablement, written description, and best mode.

<sup>92</sup> *Id.*

<sup>93</sup> See Seymore, *supra* note 66, at 289 (suggesting that if a claim covers a range of distinct embodiments, “the written description must sufficiently enable each of the ‘distinctly different’ embodiments”).

¶62 However, the rationale underlying the full scope rule suggests that it should apply beyond the fact pattern illustrated by *Liebel-Flarsheim*, *Automotive Technologies*, and *Sitrick*. Thus, embodiments not mentioned in the specification must also be enabled if they fall within the scope of the claim. The goal of enabling everything that falls within the scope of a claim does not change depending on whether additional embodiments are identified or not. To do otherwise would provide the perverse incentive for patentees to avoid describing additional embodiments they wish to include within the scope of their claims.<sup>94</sup> But extending the full scope rule to these facts may create a trap for the unwary. Patent prosecutors may not realize they are drafting claims that cover other embodiments.

¶63 Imagine if the patent in *Automotive Technologies* did not mention electronic sensors and the claims in dispute generally covered sensors. Should the patentee in *Automotive Technologies* still be required to narrow the claims to cover only mechanical sensors or otherwise have the claim declared invalid for lack of enablement? What if the inventor/patent attorney did not even consider electronic sensors? The full scope rule would still lead to an invalidity finding. Thus, the unintended consequence of the full scope rule might be to invalidate claims that unwittingly cover other non-enabled embodiments. Accordingly, patent attorneys must be extremely wary about drafting overbroad claims.

#### *B. Full Scope: Possible Litigation Abuse*

¶64 *Liebel-Flarsheim*, *Automotive Technologies*, and *Sitrick* have opened the door for defendants in patent litigation to seek some embodiments that fall within the scope of the claims in dispute but that are not enabled. Assume that the patentee in *Automotive Technologies* had drafted the claim as narrowly as the Court believed it should have. Instead of merely reciting a “side-impact sensor,” the hypothetical claim would recite a “mechanical side-impact sensor.”

¶65 Under the full scope rule, this still may not have ended the inquiry. The specification actually described at least three types of mechanical sensors that fell within the scope of the claim: a side impact sensor containing (1) an integral molded hinge, (2) a simple spring mass, and (3) a viscously damped disc sensor.<sup>95</sup> A defendant could still raise an enablement defense by identifying a fourth type of mechanical side impact sensor—say, a sensor based on measuring the change in air pressure.<sup>96</sup> Under the full scope rule, such a showing should invalidate the claim. This is true even if a person of ordinary skill in the art would understand that the air pressure sensor was a reasonable substitute for the three disclosed sensors. According to *Automotive Technologies*, a patentee cannot use the knowledge of a person of ordinary skill in the art to fill in the novel aspect of the patent<sup>97</sup> (i.e., an electronic sensor in the actual *Automotive Technologies* decision, or an air pressure sensor in this hypothetical). If this truly were the rule, only extremely narrow claims that directly reflect disclosed embodiments and their small variations would survive.

¶66 This result is at odds with how the law treats patent claims. Decisions discussing both enablement and claim construction repeatedly state that an inventor is entitled to claims that are broader than the embodiments disclosed in the specification. Cases from *Fisher* to *Invitrogen* state that the enablement doctrine was never intended to limit claims to merely their disclosed

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<sup>94</sup> The Federal Circuit has provided a similar incentive with respect to the doctrine of equivalents. Under the public dedication rule announced in *Johnson and Johnston Associates v. R.E. Service Co.*, 285 F.3d 1046, 1054 (Fed. Cir. 2002), if a claim does not literally cover subject matter disclosed in the specification, the patentee cannot rely on the doctrine of equivalents to recapture that subject matter. This provides a similar incentive to be careful to claim all embodiments disclosed in the specification or to avoid describing them altogether.

<sup>95</sup> These sensors are depicted in Figures 1, 5 and 6 of the patent at issue in *Automotive Technologies*, U.S. Patent No. 5,231,253 (filed Jun. 2, 1992). Figure 7 depicts a safing sensor that appears to be used in conjunction with one of the other sensors. *See, e.g.*, '253 Patent col.11 l.43, col.12 l.43 (claims 15 and 29, claiming the safing sensor with the primary sensor).

<sup>96</sup> Although the air pressure sensor was made up for this hypothetical, the existence of alternative embodiments is not farfetched. In fact, the inventors suggested that there are other possible embodiments using “other geometries, [or] materials . . .” that would fall within the scope of the claims. '253 Patent col.10 l.53.

<sup>97</sup> 501 F.3d at 1283 (holding that “[a]lthough the knowledge of one skilled in the art is indeed relevant, the novel aspect must be enabled *in* the patent”) (emphasis added).

embodiments.<sup>98</sup> This is particularly true when a person of ordinary skill in the art would understand how to make and use alternative embodiments.<sup>99</sup> In *Phillips v. AWH Corp.* the Federal Circuit discussed how it had “repeatedly” warned against interpreting claims to only cover the specific embodiments described in the specification.<sup>100</sup> Moreover, the Court “expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment.”<sup>101</sup>

¶67 The author does not mean to suggest that the Federal Circuit actually would have invalidated the claims in *Automotive Technologies* if they had been limited to mechanical sensors. That result goes too far and no case to date suggests that the Federal Circuit would apply the new enablement standard to such facts. However, the rules discussed in *Automotive Technologies* dictate that outcome. At a minimum, the *Automotive Technologies* focus on the novel aspect of the invention must be viewed with skepticism. Either the rule or its application proves too much.<sup>102</sup> It appears to make it far too easy to invalidate a claim based on a non-disclosed alternative embodiment. But even if the “novel aspect” of the invention is ignored, the hypothetical shows how patent litigants can create an enablement defense in almost any case.

¶68 The reason the full scope rule is subject to abuse in the predictable arts is because innovation in those technologies is often incremental.<sup>103</sup> Thus, in the *Automotive Technologies* example, experts may differ on whether a sensor that measures the difference in air pressure is taught by simply describing other types of mechanical sensors. Similarly, more complex technology inevitably requires some effort to adapt new technology for a particular application. Attorneys will characterize this effort as “undue experimentation.”

¶69 We can examine the recent *z4 Technologies, Inc. v. Microsoft Corp.* lawsuit to illustrate this point. The plaintiff, z4 Technologies, was the assignee of two patents directed at preventing the illicit copying and unauthorized use of computer software.<sup>104</sup> z4's invention controlled the number of copies of authorized software by monitoring registration information and by requiring authorized users to periodically update a password or authorization code provided by a password administrator.<sup>105</sup> z4 accused the “Product Activation” feature in versions of Microsoft’s Office and Windows products of infringing z4’s patents.<sup>106</sup> A review of the district court<sup>107</sup> and Federal Circuit<sup>108</sup> decisions indicates that the primary defenses to liability were non-infringement, anticipation, and obviousness. Enablement was not mentioned in either decision.

<sup>98</sup> See, e.g., *In re Fisher*, 427 F.2d 833, 839 (C.C.P.A. 1970) (“It is apparent that such an inventor should be allowed to dominate the future patentable inventions of others where those inventions were based in some way on his teachings. Such improvements, while unobvious from his teachings, are will[sic] within his contribution, since the improvement was made possible by his work.”); see also *Invitrogen Corp. v. Clontech Labs., Inc.*, 429 F.3d 1052, 1071 (Fed. Cir. 2005) (“Enablement does not require the inventor to foresee every means of implementing an invention at pains of losing his patent franchise. Were it otherwise, claimed inventions would not include improved modes of practicing those inventions. Such narrow patent rights would rapidly become worthless as new modes of practicing the invention developed.”).

<sup>99</sup> See *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1244 (Fed. Cir. 2003); *Johns Hopkins Univ. v. Cellpro, Inc.*, 152 F.3d 1342, 1360 (Fed. Cir. 1998).

<sup>100</sup> See *Phillips v. AWH*, 415 F.3d 1303, 1323 (Fed. Cir. 2005) (en banc) (citations omitted). Ironically, even *Liebel I* stated that “this court has expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment.” 358 F.3d 898, 906 (Fed. Cir. 2004).

<sup>101</sup> *Phillips*, 415 F.3d at 1323 (citing *Gemstar-TV Guide Int'l, Inc. v. ITC*, 383 F.3d 1352, 1366 (Fed. Cir. 2004)).

<sup>102</sup> The Court viewed the “novel aspect” of the invention as “using a velocity-type sensor for side impact sensing,” not as the velocity-type sensor itself. *Auto. Techs. Int'l, Inc. v. BMW of N. Am., Inc.*, 501 F.3d 1274, 1283 (Fed. Cir. 2007). Thus, even if the Court properly refused to allow a person of ordinary skill to fill in the “novel aspect” of the invention, the Court should have considered the possible existence of velocity-based electronic sensors.

<sup>103</sup> In its 2003 report on innovation, the FTC noted that “technology developed in industries such as semiconductors, computer hardware, and software can contain a large number of incremental innovations.” INNOVATION, *supra* note 1, at 25-26.

<sup>104</sup> *z4 Techs., Inc. v. Microsoft Corp.*, 507 F.3d 1340 (Fed. Cir. 2007).

<sup>105</sup> *Id.* at 1344.

<sup>106</sup> *Id.* at 1345.

<sup>107</sup> *z4 Techs., Inc. v. Microsoft Corp.*, 434 F. Supp. 2d 437 (E.D. Tex. 2006).

<sup>108</sup> *z4 Techs.*, 507 F.3d at 1340.



¶70 However, under the new full scope rule, Microsoft could have raised an enablement defense by arguing that if its products fall within the scope of the claim, z4 was obligated to enable that embodiment. At first blush, this may seem unreasonable. Preventing unauthorized copying appears to be generally applicable to different software products. However, consider the evidence Microsoft could offer. The patents' specifications never mention Office or Windows, much less explain how to incorporate the invention into either product.<sup>109</sup> Microsoft's engineers could testify about the engineering time it took to create the "product activation" feature. Experts could testify that Microsoft's engineers needed to have an intimate knowledge of the workings of both Office and Windows to add this feature. Why isn't this sufficient undue experimentation to render the claims invalid for lack of enablement?

¶71 In response, z4 could correctly point out that the test for undue experimentation is not merely quantitative, and that a considerable amount of routine experimentation is permissible.<sup>110</sup> Nevertheless, doesn't Microsoft's argument create a factual dispute?<sup>111</sup> If so, will juries believe that Microsoft's engineering efforts are routine after an expert describes the effort in a manner calculated to emphasize the complexity of the technology? In sum, the full scope rule appears to allow defendants to raise the enablement defense in many cases where the defense is not warranted. To add insult to injury, the rule incentivizes defendants to try to make the disputed technology even more confusing, something that is far too easy to do in patent cases.

### *C. A Blunt Instrument for a Specific Problem*

¶72 Another problem with the enablement defense is that it is a blunt instrument. Of course this problem does not reside solely in the predictable arts. It applies regardless of technology. There are at least two aspects to this issue. First, the enablement defense does not discriminate between beneficiaries. Both defendants that practice an embodiment that is enabled by the specification and those that do not can benefit from the enablement defense. Second, since enablement is assessed in view of the state of the art on the filing date, the requirement is not well suited to address overbroad claims that cover future innovations.

#### *1. Non-discriminatory Beneficiaries*

¶73 Again, *Automotive Technologies* can be used to illustrate the issue of non-discriminatory beneficiaries. In the actual case, the defendants' side impact sensing systems used electronic sensors<sup>112</sup> and they successfully argued that the claims were invalid because the specification enabled only mechanical, and not electronic, sensors. In contrast, assume that some hypothetical defendants used some form of a mechanical sensor. Even though the hypothetical defendants do not use electronic sensors, there is no reason why they could not argue that the claims at issue were invalid because they did not enable electronic sensors.<sup>113</sup> Such an outcome does not satisfy notions of fairness in the same way that the actual facts of *Automotive Technologies* do.<sup>114</sup>

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<sup>109</sup> See U.S. Patent No. 6,785,825 (filed May 31, 2002); U.S. Patent No. 6,044,471 (filed June 4, 1998).

<sup>110</sup> See *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988); *Johns Hopkins Univ. v. Cellpro, Inc.*, 152 F.3d 1342, 1360 (Fed. Cir. 1998).

<sup>111</sup> Although enablement is a legal issue, it is based on underlying factual issues. *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1238 (Fed. Cir. 2003).

<sup>112</sup> See Brief of Counterclaimant Defendant-Appellee Delphi Automotive Systems and Defendant/Counterclaimant-Appellee General Motors Corp. at 17, *Auto. Techs. Int'l, Inc. v. BMW of N. Am., Inc.*, 501 F.3d 1274 (Fed. Cir. 2007) (Nos. 2006-1013, 2006-1037).

<sup>113</sup> See *Durel Corp. v. Osram Sylvania, Inc.* 256 F.3d 1298 (Fed. Cir. 2001). In *Durel*, the district court found that the only question that the enablement defense raised was whether the plaintiff's patent enabled the accused process. The Federal Circuit reversed, stating that the question of enablement "does not turn on whether the accused product is enabled" but whether the full scope of the claimed invention was enabled. *Id.* at 1306.

<sup>114</sup> This effect is somewhat ameliorated by dependent claims because defendants that practice something akin to the embodiments described in the patent are more likely to infringe the narrower dependent claims. Indeed, dependent claims 6 and

¶74 Applying the full scope rule to the actual facts of *Automotive Technologies* is more satisfying, in part, because the plaintiff can be characterized as being greedy for claiming its invention too broadly.<sup>115</sup> However, our concept of fairness is reversed when we look at the hypothetical case. Here, defendants that practice something similar to the preferred embodiment escape liability because the claim happens to cover some unrelated embodiments. Not surprisingly, the defendants in *Liebel-Flarsheim*, and *Sitrick* practice the non-enabled embodiments.<sup>116</sup> In other words, all three recent Federal Circuit cases applied the full scope rule in a manner that is consistent with our notions of fairness.

¶75 Contrast this remedy with the results of a claim construction dispute. Typically, a plaintiff argues that a claim should be interpreted broadly while the defendants argue that the claim should be interpreted narrowly, usually in a manner that limits the claim to the disclosed embodiment(s).<sup>117</sup> This defense only benefits defendants who practice an embodiment that falls outside the scope of the claim as defined. Similarly, if the enablement defense were narrowly tailored to address the problem of overbroad claims, it would benefit only defendants who practiced embodiments that were not enabled. But, that is not the case and the doctrine actually aids undeserving beneficiaries.

### 2. Assessing Enablement from the Filing Date

¶76 The filing date rule also demonstrates why the enablement defense is not well suited for directly addressing the problem of overly broad claims. Enablement is determined by looking at the state of the art at the time the application was filed.<sup>118</sup> “The law does not expect an applicant to disclose knowledge invented or developed after the filing date. Such disclosure would be impossible.”<sup>119</sup> This rule furthers the purposes of ensuring that inventors understand their invention and teach the public how to practice it.

¶77 However, the rule does a disservice to the goal of limiting the breadth of a claim. Returning to *Automotive Technologies*, assume that the air pressure sensor was an innovation that was unknown until after the filing date of the patent.<sup>120</sup> If that were the case, a defendant could not rely on it to argue that plaintiffs failed to enable the full scope of the claim.<sup>121</sup> However, if the air pressure sensor was known by the filing date of the patent, it could serve to invalidate the claim. If the true concern is that a claim is overbroad, the date the alternative embodiment was first known should

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7 of the '253 patent in *Automotive Technologies* do not cover electronic sensors, but do cover the embodiment described in the hypothetical. This suggests that the number of successful enablement defenses brought by such “unsympathetic” defendants may be small because other narrower claims may be the primary focus of the litigation.

<sup>115</sup> That appears to be what Judge Lourie believed when he concluded the *Liebel-Flarsheim* decision with the warning, “beware of what one asks for.” *Liebel-Flarsheim v. Medrad*, 481 F.3d 1371, 1380 (Fed. Cir. 2007).

<sup>116</sup> In *Liebel-Flarsheim*, the defendant, Medrad, had a jacketless injector system. 481 F.3d at 1374. In *Sitrick*, the defendants produced and distributed DVDs of various movies, some of which included the allegedly infringing product. *Sitrick v. Dreamworks L.L.C.*, 516 F.3d 993, 995 (Fed. Cir. 2008).

<sup>117</sup> *Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1383 (Fed. Cir. 2008) (stating that the Federal Circuit “has cautioned against interpreting a claim term in a way that excludes disclosed embodiments, when that term has multiple ordinary meanings consistent with the intrinsic record”).

<sup>118</sup> *In re Hogan*, 559 F.2d 595, 605-06 (C.C.P.A. 1977). In *Hogan*, the Court distinguished “permissible application of later knowledge about art-related facts existing on the filing date and the impermissible application of later knowledge about later art-related facts . . . which did not exist on the filing date.” See also 5B DONALD S. CHISUM, CHISUM ON PATENTS § 18.04(4)(e) (2005) (The enablement requirement “regulates the literal scope of the patent claim in view of the state of the art on the filing date.”).

<sup>119</sup> *Chiron Corp. v. Genentech, Inc.* 363 F.3d 1246, 1254 (Fed. Cir. 2004).

<sup>120</sup> That was not the situation in the actual case; the specification mentioned electronic sensors. *Id.* at 1278.

<sup>121</sup> The filing date rule must be reconciled with cases that reject claims for the failure to enable potential future embodiments. For example, in *Wright*, the Federal Circuit found several claims were not enabled because they broadly covered an entire category of vaccines including vaccines against AIDS viruses that no one has been able to develop. *In re Wright*, 999 F.2d 1557, 1562 (Fed. Cir. 1993). In practice, it appears that claims should be rejected if *at the time the application was filed* it was clear that claim covered non-enabled potential future embodiments (i.e. claims that predict future innovations).

not matter. The embodiment is either too far afield from the invention described in the patent specification or it is not.

#### *D. Recommendations*

##### *1. Backtrack*

¶78 The Federal Circuit should stop focusing on the full scope of the claim. The use of the full scope rule in *Liebel-Flarsheim, Automotive Technologies*, and *Sitrick* suggests that if a defendant can identify any non-enabled embodiment that falls within the scope of a claim, the claim should be invalid. Defendants in the predictable arts will inevitably find some embodiment that satisfies that criteria, and even if they do not, the courts will have to waste considerable resources weeding out those defenses. Broad claims should require a correspondingly more detailed disclosure, but that does not mean that every conceivable embodiment must be enabled.

¶79 Instead, the Federal Circuit should return to the *Wands* factors and consider: (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims. This test should apply to technologies in both the predictable and unpredictable arts.

¶80 The *Wands* factors provide a flexible test that can respond to the different circumstances that occur in the real world. Applying the *Wands* factors to the facts of *Automotive Technologies* and one of its variations illustrates the flexibility of the test. In the actual ATI patent, the claim covered electronic and mechanical sensors. That claim may still be invalid under *Wands* because of the breadth of the claim and the fact that those skilled in the art may not be familiar with how to make electronic sensors. However, a claim that simply covers mechanical based sensors would probably be valid despite the possibility of a undisclosed mechanical air pressure sensor. The latter claim is narrower and those skilled in the art are more likely to understand how to make other types of mechanical sensors. Thus, the *Wands* factors provide a better basis for differentiating between non-disclosed embodiments that should and should not invalidate a claim.

¶81 In returning to *Wands*, the Federal Circuit should overrule the *Engel-Invitrogen* single embodiment rule. Although enabling a single embodiment may be sufficient to satisfy the enablement requirement, there are plainly cases where such a disclosure would be insufficient. Patentees should not be able to enable a simple embodiment and obtain claims that cover far more complex embodiments that the patentee does not know how to make and use. Such claims improperly implicate future developments but do not teach the invention. Interestingly, the facts of *Sitrick* fall into this category.<sup>122</sup> There will undoubtedly be cases like *Sitrick* that disclose a single embodiment in the predictable arts, but still claim too much.

¶82 The Federal Circuit should also overrule *Spectra-Physics*. *Spectra-Physics* goes too far by stating that if a technology is predictable, a single embodiment is *per se* sufficient. The issue of whether a technology falls within the predictable or unpredictable arts should play an important role in determining whether the enablement requirement is satisfied, but *Spectra-Physics*' blended rule is too inflexible. In contrast, the *Wands* factors are flexible enough to consider predictable innovations in the unpredictable arts and vice versa.

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<sup>122</sup> In *Sitrick*, the patent could describe how to integrate a user's audio signal or visual image into preexisting video games because video games have separate preexisting signals. The patent did not attempt to describe the more difficult problem of obtaining those signals from movies which do not have separate preexisting signals. Yet, it claimed both the simple and the non-enabled embodiment. Thus, even applying the *Wands* factors, the claims in *Sitrick* would probably be invalid.

2. Consider Relying on Other Doctrines

¶83 Although a return to the *Wands* factors can play some role in limiting overbroad patents, the enablement doctrine is not a good choice for addressing this problem. In one sense, the doctrine is overbroad because it benefits undeserving parties—parties that actually practice enabled embodiments. In another sense, the remedy is too narrow because it does not limit how broad claims may be applied against unforeseeable future innovations. If the Federal Circuit feels the need to address these shortcomings in enablement law, it should look to doctrines like claim construction and the reverse doctrine of equivalents. They would be far better vehicles for limiting the breadth of claims because they can directly attack the problem.

a. Claim Construction

¶84 For example, the Federal Circuit could consider what a patent enables as part of the claim construction analysis. Currently, the doctrine of claim construction does not factor that into its analysis.<sup>123</sup> The primary basis for construing claim is intrinsic evidence—specifically, the specification, claims and prosecution history.<sup>124</sup> Interestingly, at least one non-precedential Federal Circuit decision has used enablement analysis to inform its claim construction. In *Medtronic Navigation, Inc. v. Brainlab Medizinische Computersysteme GMBH*, the Federal Circuit affirmed the district court’s narrow interpretation of a claim term, in part, because a broader interpretation would have rendered the claim invalid for lack of enablement.<sup>125</sup> By interpreting the claim in a manner that preserved its validity, the Court indirectly relied on enablement analysis. However, the Federal Circuit could directly incorporate that analysis into its claim construction principles. Again, the advantage of this approach is that the remedy is narrowly tailored to address the problem of overbroad claims.

b. The Reverse Doctrine of Equivalents

¶85 The Federal Circuit could also revive the reverse doctrine of equivalents. In *Graver Tank & Manufacturing Co. v. Linde Air Products Co.*, the Supreme Court explained how the doctrine of equivalents could be applied against a patentee (i.e. in reverse):

Thus, where a device is so far changed in principle from a patented article that it performs the same or a similar function in a substantially different way, but nevertheless falls within the literal words of the claim, the doctrine of equivalents may be used to restrict the claim and defeat the patentee's action for infringement.<sup>126</sup>

¶86 Evaluating whether a device is properly enabled may be one way of determining whether it is so far changed in principle that it should not fall within the scope of the claim, and thereby trigger the reverse doctrine of equivalents. Moreover, the “reverse doctrine of equivalents allows a court to focus on what the appropriate scope of patent protection for an invention should be in light of developments after the filing of the application of the patent.”<sup>127</sup>

¶87 However, the Federal Circuit appeared to announce the death of the reverse doctrine of equivalents in *Tate Access Floors Leasing, Inc. v. Interface Architectural Resources, Inc.*:

Not once has this court affirmed a decision finding noninfringement based on the reverse doctrine of equivalents. And with good reason: when Congress enacted 35 U.S.C. § 112, after the decision in *Graver Tank*, it imposed requirements for the written description,

<sup>123</sup> *Phillips v. AWH*, 415 F.3d 1303, 1327 (Fed. Cir. 2005) (en banc) (“While we have acknowledged the maxim that claims should be construed to preserve their validity, we have not applied that principle broadly, and we have certainly not endorsed a regime in which validity analysis is a regular component of claim construction.”).

<sup>124</sup> *Id.* at 1317.

<sup>125</sup> *Medtronic Navigation Inc. v. BrainLAB Medizinische Comput. GMBH*, 222 F. App’x 952, 956-57 (Fed. Cir. 2007) (reasoning that the ambiguity should be “resolved in a manner that would preserve the patent’s validity” even though the patent contained a single sentence that referred to an alternate embodiment that would suggest a broader interpretation) (citing *Phillips*, 415 F.3d at 1327)).

<sup>126</sup> *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 608-09 (1950).

<sup>127</sup> CHISUM, *supra* note 118.

enablement, definiteness, and means-plus-function claims that are co-extensive with the broadest possible reach of the reverse doctrine of equivalents.<sup>128</sup>

¶188 Ironically, *Tate* concluded that the reverse doctrine of equivalents was replaced, in part, by the enablement requirement. However, as discussed above, the reverse of doctrine of equivalents is a better vehicle than the enablement requirement for addressing overbroad claims. Therefore, the Federal Circuit may wish to revive the doctrine.<sup>129</sup>

## VI. CONCLUSION

¶189 Although the heightened enablement requirement represented by *Liebel-Flarsheim*, *Automotive Technologies* and *Sitrick* may satisfy some sense of justice by penalizing plaintiffs trying to overreach with broad claims, this Article concludes that the full scope rule does make sense in the predictable arts. In the predictable arts, innovation is incremental, and the full scope rule allows defendants to identify *any* embodiment and try to prove that the patent does not enable it. If this rule becomes settled law, it will probably lead to litigation overuse, if not abuse, and make it difficult to draft patents that do not run afoul of the enablement requirement.

¶190 This Article also concludes that the enablement requirement is not well suited for addressing overbroad claims. It is a blunt instrument that aids defendants regardless of whether they practice something that is close to the heart of the invention or something far afield. Moreover, because enablement is determined from knowledge that existed at the patent's filing date, the doctrine cannot weigh future developments in assessing the proper breadth of a claim. As a result, this Article recommends that the Federal Circuit resolve the current split in enablement law and return to the *Wands* factors. To the extent that the Federal Circuit believes that existing doctrines are insufficient to address overbroad claims, it should consider modifying claim construction principles or reviving the reverse doctrine of equivalents.

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<sup>128</sup> *Tate Access Floors Leasing, Inc. v. Interface Arch'l Res., Inc.*, 279 F.3d 1357, 1368 (Fed. Cir. 2002).

<sup>129</sup> It is beyond the scope of this article to fully explore the pros and cons of incorporating enablement issues into claim construction analysis and/or the reverse doctrine of equivalents. Rather, the author is simply suggesting that the enablement defense is not the proper vehicle for addressing overbroad claims, and that there are other doctrines that may be worthy of consideration.