

2016

Exceptions to Prosecution History Estoppel Are Hardly a Dime a Dozen: An Analysis of the Federal Circuit's Application of the Narrow Exceptions to Prosecution History Estoppel Twelve Years After Festo

Rachel C. Hughey

Linhda Nguyen

Follow this and additional works at: <http://open.mitchellhamline.edu/cybaris>

 Part of the [Intellectual Property Law Commons](#)

Recommended Citation

Hughey, Rachel C. and Nguyen, Linhda (2016) "Exceptions to Prosecution History Estoppel Are Hardly a Dime a Dozen: An Analysis of the Federal Circuit's Application of the Narrow Exceptions to Prosecution History Estoppel Twelve Years After Festo," *Cybaris*®: Vol. 7: Iss. 1, Article 2.

Available at: <http://open.mitchellhamline.edu/cybaris/vol7/iss1/2>

This Article is brought to you for free and open access by the Law Reviews and Journals at Mitchell Hamline Open Access. It has been accepted for inclusion in Cybaris® by an authorized administrator of Mitchell Hamline Open Access. For more information, please contact

sean.felhofer@mitchellhamline.edu.

© Mitchell Hamline School of Law

EXCEPTIONS TO PROSECUTION HISTORY ESTOPPEL ARE
HARDLY A DIME A DOZEN: AN ANALYSIS OF THE FEDERAL
CIRCUIT’S APPLICATION OF THE NARROW EXCEPTIONS TO
PROSECUTION HISTORY ESTOPPEL TWELVE YEARS AFTER
FESTO

RACHEL C. HUGHEY¹ & LINHDA NGUYEN²

I. BACKGROUND ON THE DOCTRINE OF EQUIVALENTS,
PROSECUTION HISTORY ESTOPPEL, AND EXCEPTIONS
THERETO..... 60

A. THE DOCTRINE OF EQUIVALENTS: AN EXCEPTION TO LITERAL
INFRINGEMENT..... 60

B. PROSECUTION HISTORY ESTOPPEL: AN EXCEPTION TO AN
EXCEPTION..... 61

C. THE RISE OF THE THREE EXCEPTIONS TO PROSECUTION
HISTORY ESTOPPEL: THE *FESTO* DECISIONS. 62

II. THE FEDERAL CIRCUIT’S POST-*FESTO* APPLICATION
OF THE TANGENTIAL EXCEPTION TO PROSECUTION
HISTORY ESTOPPEL. 72

A. THE REASON FOR THE ALLEGEDLY TANGENTIAL AMENDMENT
MUST BE DISCERNIBLE SOLELY FROM THE INTRINSIC RECORD..... 72

B. EVEN IF AN APPLICANT DID NOT NEED TO AMEND A CLAIM
IN A SPECIFIC WAY TO OVERCOME THE PRIOR ART, THE TANGENTIAL
EXCEPTION MAY NOT APPLY TO THAT ADDED LIMITATION. 73

C. IF AN APPLICANT AMENDS AN INDEPENDENT CLAIM FOR
PATENTABILITY REASONS TO RECITE A LIMITATION PREVIOUSLY
FOUND IN A DEPENDENT CLAIM, THE TANGENTIAL EXCEPTION IS
AVAILABLE FOR ASPECTS OF THE LIMITATIONS THAT WERE NOT AT
ISSUE DURING PROSECUTION..... 80

D. THE TANGENTIAL EXCEPTION APPLIES TO CLAIM ELEMENTS
THAT WERE NEVER NARROWED DURING PATENT PROSECUTION.... 85

¹ Rachel C. Hughey is a shareholder with the law firm of Merchant & Gould, P.C., in Minneapolis, MN. She is the co-chair of the firm’s appellate practice. The authors would like to thank Elisabeth Muirhead and Joseph Dubis for their assistance on this article.

² Linhda Nguyen is an associate with the law firm of Merchant & Gould, P.C., in Minneapolis, MN.

E. THE TANGENTIAL EXCEPTION DOES NOT APPLY TO ASSERTED EQUIVALENTS OF CLAIM ELEMENTS RELIED UPON TO OVERCOME U.S.C. § 112 REJECTIONS.	35 89
III. THE FEDERAL CIRCUIT’S POST- <i>FESTO</i> APPLICATION OF THE UNFORESEEABILITY EXCEPTION TO PROSECUTION HISTORY ESTOPPEL.	93
A. <i>HONEYWELL V. HAMILTON</i> : EXPERT TESTIMONY MAY BE USED TO EVALUATE THE UNFORESEEABILITY EXCEPTION.	94
B. <i>RESEARCH PLASTICS V. FEDERAL PACKAGING</i> : THE UNFORESEEABILITY EXCEPTION DOES NOT APPLY IF THE AMENDMENT DEMONSTRATES THAT THE EQUIVALENT WAS FORESEEABLE.	94
C. <i>SCHWARTZ V. PADDOCK</i> : THE UNFORESEEABILITY EXCEPTION DOES NOT APPLY IF THE ALLEGED EQUIVALENT WAS FORESEEABLE IN THE FIELD OF THE INVENTION.	95
D. <i>AMGEN V. HOECHST MARION</i> AND <i>GLAXO V. IMPAX</i> : AN ALLEGED EQUIVALENT IS FORESEEABLE IF THE PATENTEE KNEW OF THE EQUIVALENT AT THE TIME OF THE NARROWING AMENDMENT OR IF THE EQUIVALENT WAS DISCLOSED IN THE PRIOR ART.	96
E. <i>MYCOGEN V. MONSANTO</i> AND <i>TALBERT V. UNOCAL</i> : IF THE CLAIM ORIGINALLY INCLUDED A RANGE AND THEN WAS NARROWED, THE ORIGINAL RANGE WAS FORESEEABLE.	97
F. <i>RANBAXY V. APOTEX</i> : IT IS IRRELEVANT IF THE PATENTEE DID NOT FORESEE THE SURRENDER.	98
G. DISCUSSION.	98
IV. “SOME OTHER REASON” EXCEPTION TO PROSECUTION HISTORY ESTOPPEL.	99
A. <i>PIONEER MAGNETICS V. MICRO LINEAR</i> AND <i>OKOR V. ATARI</i> : THE “SOME OTHER REASON” EXCEPTION DOES NOT APPLY IF THE ALLEGED EQUIVALENT WAS IN THE CITED PRIOR ART.	99
B. <i>AMGEN V. HOECHST</i> : THE “SOME OTHER REASON” EXCEPTION DOES NOT APPLY IF THE PATENTEE WAS AWARE OF THE ALLEGED EQUIVALENT.	100
C. <i>FESTO X</i> : THE “SOME OTHER REASON” EXCEPTION DOES NOT APPLY IF THE CLAIM AS ORIGINALLY DRAFTED INCLUDED THE ALLEGED EQUIVALENT.	100
D. DISCUSSION.	101
V. TABLE OF RELEVANT DECISIONS CONSIDERING THE TANGENTIAL EXCEPTION, INCLUDING AUTHORIZING JUDGE AND PANEL.	101

VI. SUGGESTED APPLICATIONS OF THE THREE EXCEPTIONS TO PROSECUTION HISTORY ESTOPPEL.....	106
A. TANGENTIAL EXCEPTION.....	106
B. UNFORESEEABILITY EXCEPTION.....	107
C. “SOME OTHER REASON” EXCEPTION.....	108
VII. CONCLUSION.....	109

In *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.* (*Festo VIII*),³ the Supreme Court rejected the Federal Circuit’s bright-line rule that prosecution history estoppel bars infringement under the doctrine of equivalents when a patent applicant makes a narrowing amendment for reasons related to patentability. The Court specified three narrow potential exceptions by which a patentee could overcome the presumption of prosecution history estoppel.⁴ More than ten years after the *Festo* decision, however, courts and patent practitioners alike are left with little guidance as to when and why the narrow exceptions apply to a particular case.

Part I of this article introduces the doctrine of equivalents, prosecution history estoppel, and the *Festo* decisions that created the exceptions thereto. Part II discusses a decade of Federal Circuit cases following the Supreme Court’s *Festo* decision that consider the tangential exception to prosecution history estoppel. Part III provides a discussion of Federal Circuit cases addressing the unforeseeability exception. Part IV discusses the last exception, whether the patentee has “some other reason” why the applicant could not have been expected to draft the patent claims to cover the accused equivalent. Part V includes a table of all relevant Federal Circuit decisions relating to the exceptions to prosecution history estoppel, including authoring judge and panel members. The article concludes, in Part VI, with a discussion of scenarios where the exceptions to prosecution history estoppel are likely to apply.

³ 535 U.S. 722 (2002). This Article shall adopt the notation used by both Sharp and Walter for numbering each of the individual *Festo* cases. See Marc D. Sharp, Note, *Festo X: The Complete Bar by Another Name?*, 19 BERKELEY TECH. L.J. 111 (2004); Derek Walter, Note, *Prosecution History Estoppel in the Post-Festo Era: The Increased Importance of Determining What Constitutes a Relevant Narrowing Claim Amendment*, 20 BERKELEY TECH. L.J. 123 (2005).

⁴ *Festo VIII*, 535 U.S. at 740–41.

I. BACKGROUND ON THE DOCTRINE OF EQUIVALENTS, PROSECUTION HISTORY ESTOPPEL, AND EXCEPTIONS THERETO.

A. *The Doctrine of Equivalents: An Exception to Literal Infringement.*

It is hornbook law that a patent is only literally infringed if every limitation in a claim, as properly construed, reads exactly on an accused product.⁵ This bright-line rule could allow accused infringers to avoid infringement by making “unimportant and insubstantial changes” to patented inventions.⁶ To avoid the harsh effects of the limits of literal infringement, courts created a judicial mechanism to expand protection to patentees: the doctrine of equivalents (“DOE”).⁷ The Supreme Court affirmed, in *Graver Tank & Manufacturing Co. v. Linde Air Products Co.*,⁸ that under the DOE, a patentee may assert infringement over a product that “performs substantially the same function in substantially the same way to obtain the same result,” even if it does not literally infringe.⁹

The expanded protection patentees receive under the DOE arguably conflicts with the notice function of patent claims.¹⁰ The Patent Act requires a patent applicant to particularly point out and distinctly claim the subject matter of his invention in order to provide fair notice to the public about the “metes and bounds of the claimed invention.”¹¹ With proper notice of the claimed invention, competitors are able to avoid infringement by designing around the patent.¹² The patent system encourages competitors to create new inventions by making substantial changes to a patented invention.¹³ Competitors would not be able to design around patents, however, if the DOE were

⁵ *Strattec Sec. Corp. v. Gen. Auto. Specialty Co.*, 126 F.3d 1411, 1418 (Fed. Cir. 1997).

⁶ *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 607 (1950).

⁷ *Id.* at 608.

⁸ 339 U.S. 605 (1950).

⁹ *Id.* at 608 (internal quotation marks omitted).

¹⁰ *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29 (1997).

¹¹ *Wallace London & Clemco Prods. v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538 (Fed. Cir. 1991); *see also* 35 U.S.C. § 112 (2012).

¹² *Wallace*, 946 F.2d at 1538.

¹³ *Id.*

applied so broadly that the public no longer had clear notice of the scope of the invention.¹⁴

Cognizant of the tension between the desire to properly protect patent owners and encourage patent innovation, and the desire to protect the rights of the public to know what is and is not an infringement, courts have allowed the application of the DOE, while recognizing that its reach must be carefully limited. These competing interests—and the inherent uncertainty surrounding the DOE—have caused courts trouble as they try to define the proper scope of the doctrine.

B. *Prosecution History Estoppel: An Exception to an Exception.*

Prosecution history estoppel (“PHE”) is a legal instrument that courts use to strike a balance between the notice function of patent claims and the expanded protection that results when the DOE is applied.¹⁵ PHE serves to limit, and is available as a defense to, the DOE.¹⁶ In *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*,¹⁷ the Supreme Court held that a patentee may be estopped from relying on the DOE to assert infringement of a claim if the patentee amended the claim to avoid prior art.¹⁸ In this way, PHE tempers the patentee’s ability to assert infringement under the DOE after disclaiming subject matter by narrowing the scope of a claim in order to secure the grant of a patent.¹⁹

The *Warner-Jenkinson* Court placed the burden on the patentee to demonstrate that the reason for an amendment was

¹⁴ *Warner-Jenkinson*, 520 U.S. at 29 (“It is important to ensure that the application of the doctrine, even as to an individual element, is not allowed such broad play as to effectively eliminate that element in its entirety.”); *Wallace*, 946 F.2d at 1538 (“Application of the doctrine of equivalents is the exception, however, not the rule, for if the public comes to believe (or fear) that the language of patent claims can never be relied on, and that the doctrine of equivalents is simply the second prong of every infringement charge, regularly available to extend protection beyond the scope of the claims, then claims will cease to serve their intended purpose.”).

¹⁵ *Warner-Jenkinson*, 520 U.S. at 33.

¹⁶ *Id.* at 30, 40.

¹⁷ 520 U.S. 17 (1997).

¹⁸ *Id.* at 30.

¹⁹ *Exhibit Supply Co. v. Ace Patents Corp.*, 315 U.S. 126, 136 (1942) (“[I]t has long been settled that recourse may not be had to [the doctrine of equivalents] to recapture claims which the patentee has surrendered by amendment.”).

unrelated to patentability in order to maintain an infringement claim under the DOE.²⁰ If the reason for a narrowing amendment is not apparent from the prosecution history, the Court applies a rebuttable presumption that the amendment was made for reasons related to patentability.²¹ If the patentee is unable to rebut the presumption with an appropriate reason for the amendment, then PHE bars the patentee from asserting infringement under the DOE.²² PHE allows the public to rely on a patent's prosecution history, and the estoppel resulting from a narrowing amendment, to avoid infringement of an amended claim.²³

C. *The Rise of the Three Exceptions to Prosecution History Estoppel: The Festo Decisions.*

1. *Festo VII: The Federal Circuit declares that PHE is un rebuttable.*

The Federal Circuit, sitting en banc in 2000, considered the limits of PHE in *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*²⁴ Festo had sued Shoketsu Kinzoku Kogyo Kabushiki Co. (“SMC”) for infringement of two of its patents, the “Stoll patent” and “Carroll patent,” which relate to magnetically coupled rodless cylinders.²⁵ The district court held that SMC infringed the Carroll patent under the DOE

²⁰ *Warner-Jenkinson*, 520 U.S. at 33.

²¹ *Id.*

²² *Id.* In *Conoco, Inc. v. Energy & Environmental International, L.C.*, the patentee was able to rebut the presumption of PHE. 460 F.3d 1349 (Fed. Cir. 2006). Conoco's patent application claimed the use of fatty acid waxes such as stearamides. *Id.* at 1354. The patent examiner rejected the claims in light of prior art use of metal stearates, which it deemed to be functionally equivalent. *Id.* Conoco canceled the original claims and submitted twenty-two new claims, with all but one of the new claims containing a “fatty acid wax” limitation. *Id.* The examiner later amended the remaining claim to include the “fatty acid wax” limitation. *Id.* at 1354–55. The defendant argued that Conoco was barred by PHE from asserting infringement over any equivalents of “fatty acid wax,” because it was a narrowing amendment made during prosecution. *Id.* at 1363. The Federal Circuit instead held that the amendment was not made for patentability reasons, but to correct an obvious omission. *Id.* at 1364. The prosecution history showed that the applicant and examiner continually argued about whether “fatty acid wax” was novel over metal stearates and treated the limitation as if it were present throughout prosecution. *Id.*

²³ *Festo VIII*, 535 U.S. 722, 727 (2002).

²⁴ *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. (Festo VII)*, 234 F.3d 558 (Fed. Cir. 2000).

²⁵ *Id.* at 578.

and granted partial summary judgment to Festo.²⁶ At trial, the jury found that SMC also infringed the Stoll patent under the DOE.²⁷ On appeal before a Federal Circuit panel, the court affirmed the district court's decision.²⁸ The Supreme Court, however, vacated and remanded the case for reconsideration in light of its recent decision in *Warner-Jenkinson*.²⁹

On remand, in *Festo VII*, an eight-to-four majority of the Federal Circuit en banc panel held that “a narrowing amendment made for any reason related to the statutory requirements for a patent will give rise to prosecution history estoppel with respect to the amended claim element.”³⁰ The court noted that, while the Supreme Court's focus in *Warner-Jenkinson* was on amendments made to avoid prior art and not amendments made for other reasons related to patentability, amendments made for “substantial reason[s] related to patentability” extend beyond the statutory requirements of novelty and nonobviousness.³¹ The Federal Circuit determined that its holding was not inconsistent with *Warner-Jenkinson*.³²

The en banc majority further held that, when an amendment to a claim element creates PHE, a patentee is completely barred from asserting the DOE with respect to that claim element.³³ The court found there was a need for certainty regarding the territory of surrender when patent claims are amended, and with a complete bar the public could be certain the scope of the amended claim element did not extend beyond the literal terms of the claim.³⁴ A complete bar to the application of the DOE, according to the majority, would underscore the importance of the notice function of claims.³⁵

²⁶ *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. (Festo I)*, 1993 U.S. Dist. LEXIS 21434 (D. Mass. 1993).

²⁷ *Id.*

²⁸ *Festo Corp. v. Shoketsu Kinzoku Kabushiki Co. (Festo II)*, 72 F.3d 857 (Fed. Cir. 1995).

²⁹ *Festo Corp. v. Shoketsu Kinzoku Kabushiki Co. (Festo IV)*, 520 U.S. 1111 (1997).

³⁰ *Festo VII*, 234 F.3d at 566.

³¹ *Id.* at 567–68. The court cited the patentable subject matter requirement of 35 U.S.C. § 101, as well as the written description, enablement, definiteness, and best mode requirements of 35 U.S.C. § 112, as statutory requirements for patentability that do not involve overcoming prior art. *Id.*

³² *Id.*

³³ *Id.* at 569.

³⁴ *Id.* at 577.

³⁵ *Id.* at 575.

Addressing Festo's Stoll patent, the Federal Circuit held that PHE barred Festo from asserting any range of equivalents for its "magnetizable sleeve" and "sealing ring" elements.³⁶ Festo's original independent claim 1 contained neither of the two elements at issue, which were found in the original dependent claims instead.³⁷ In response to a 35 U.S.C. § 112 rejection addressed to whether the claim was directed to a motor or clutch, the applicant amended the independent claim to recite the "magnetizable sleeve" element as well as "first sealing rings" and "second sealing rings" and canceled the dependent claims, one of which generally recited "sealing rings."³⁸ In the same office action response, the applicant cited two German patents and argued that the claims were distinguishable over the patents.³⁹ The Federal Circuit reversed the jury's finding of infringement under the DOE because it held that both the "magnetizable sleeve" and "sealing ring" elements were narrowing amendments made for patentability reasons because they were made in response to a 35 U.S.C. § 112 rejection.⁴⁰ To further support its conclusion that the "sealing ring" limitation was amended for a reason related to patentability, the court pointed to the applicant's statement that the limitation distinguished the invention from the two German prior art references, which did not disclose sealing rings.⁴¹

Festo's Carroll patent claimed a "pair of resilient sealing rings," which the district court held was infringed under the DOE.⁴² Festo argued that PHE should not apply because the original patent applicant (from whom Festo acquired the patent) voluntarily amended the claim to add the limitation during a reexamination of the patent.⁴³ Festo argued the amendment was not made for patentability reasons because it did not distinguish the invention from the German patent cited as prior art during reexamination, which also disclosed a pair of

³⁶ *Id.* at 588, 591.

³⁷ *Id.* at 582–83.

³⁸ *Id.* at 583.

³⁹ *Id.*

⁴⁰ *Id.* at 588–89. The Federal Circuit noted that the "magnetizable sleeve" limitation did not address the patent examiner's § 112 rejection, but there was nothing in the prosecution history that indicated that the amendment was made for clarification purposes rather than patentability reasons. The court also held that because the "sealing ring" limitation was added to satisfy the § 112 rejection, the amendment was made for patentability reasons. *Id.*

⁴¹ *Id.* at 589.

⁴² *Id.* at 589–90.

⁴³ *Id.* at 590.

sealing rings.⁴⁴ The Federal Circuit rejected this argument and reversed the district court's grant of summary judgment, holding that a voluntary amendment does not escape PHE.⁴⁵ The court further held that Festo could not overcome the presumption that the amendment was made for patentability reasons because, while the "pair of resilient sealing rings" limitation alone may not have distinguished the prior art, the combination of elements was patentable over prior art.⁴⁶

Judges Michel, Rader, Linn, and Newman dissented from the majority's holding that a patentee is completely barred from relying on the DOE for claims amended for any reason related to patentability.⁴⁷ Judge Michel asserted that the Supreme Court's *Warner-Jenkinson* opinion struck the appropriate balance between the notice function of claims and the unfairness patentees face if they are limited to protection from literal infringement, a balance which the majority now disrupted by creating the complete bar to the DOE.⁴⁸ Judge Michel performed an extensive analysis of past Supreme Court cases as well as Federal Circuit cases and argued the cases supported a flexible application of PHE.⁴⁹ All of the dissenting judges agreed that the complete bar to the DOE would effectively allow copyists to avoid infringement by making insubstantial changes to claim elements that had been amended during prosecution.⁵⁰

2. *Festo VIII: The Supreme Court rejects the complete bar and provides three exceptions to prosecution history estoppel.*

⁴⁴ *Id.*

⁴⁵ *Id.* at 591.

⁴⁶ *Id.*

⁴⁷ Judge Michel wrote an opinion concurring-in-part and dissenting-in-part and was joined by Judge Rader. *See Id.* at 598 (Michel, J., concurring-in-part, dissenting-in-part). Judge Rader wrote a separate opinion concurring-in-part and dissenting-in-part. *Id.* at 619 (Rader, J., concurring-in-part, dissenting-in-part). Judge Linn, also joined by Judge Rader, wrote a third opinion concurring-in-part and dissenting-in-part. *Id.* at 620 (Linn, J., concurring-in-part, dissenting-in-part). Judge Newman wrote a fourth separate opinion, concurring-in-part and dissenting-in-part. *Id.* at 630 (Newman, J., concurring-in-part, dissenting-in-part).

⁴⁸ *Id.* at 598 (Michel, J., concurring-in-part, dissenting-in-part).

⁴⁹ *See id.* at 601–15.

⁵⁰ *See id.* at 616, 627.

The Supreme Court accepted certiorari and affirmed the Federal Circuit's holding that a claim amendment made for any reason related to patentability triggers a presumption of PHE.⁵¹ The Court explained that, while an amendment to satisfy the 35 U.S.C. § 112 written description, enablement, and best mode requirements may be clarifying rather than narrowing, if the amendment narrows the claim, estoppel may apply.⁵² A narrowing amendment to overcome a patentability rejection, according to the Court, reflects a patentee's concession that his invention is not as broad as his original claim.⁵³ Were it otherwise, the patentee could have chosen to appeal the patent examiner's rejection.⁵⁴

The Supreme Court, however, overturned the Federal Circuit's finding that once a narrowing amendment for reasons related to patentability is made, it is a complete bar to the DOE.⁵⁵ The Court recognized that words cannot always capture the essence of an invention, and the purpose of the DOE is to allow a patent's scope to cover equivalents that do not fit the literal terms of the patent.⁵⁶ While a narrowing amendment is a concession that the invention is not as broad as the original claim, the Court reasoned, it does not follow that the amended claim is able to capture the invention so precisely that all equivalents should be foreclosed.⁵⁷

Rather than a complete bar to the DOE, when a patent applicant makes a narrowing amendment, the Supreme Court held that there is a *presumption* that an amendment surrenders the equivalent in question and the patentee then has the burden of overcoming the presumption.⁵⁸ The Court specified three instances where a patentee could overcome the presumption that PHE applies and demonstrate an amendment does not surrender an equivalent: 1) the rationale underlying the amendment has a mere tangential relation to the accused equivalent; 2) the accused equivalent was unforeseeable at the time of the amendment; or 3) there was some other reason that the patentee

⁵¹ *Festo VIII*, 535 U.S. 722, 736 (2002).

⁵² *Id.* at 736–37.

⁵³ *Id.* at 737.

⁵⁴ *Id.* at 734 (“While the patentee had the right to appeal, his decision to forego an appeal and submit an amended claim is taken as a concession that the invention as patented does not reach as far as the original claim.”).

⁵⁵ *Id.* at 737.

⁵⁶ *Festo VIII*, 535 U.S. at 731–32.

⁵⁷ *Id.* at 738.

⁵⁸ *Id.* at 740.

could not have been expected to describe the accused equivalent.⁵⁹ The Supreme Court then remanded the case for the Federal Circuit to consider whether Festo was able to rebut the presumption that its narrowing amendments surrendered the equivalents at issue.⁶⁰

3. *Festo X: The Federal Circuit provided further guidance on the three exceptions to prosecution history estoppel.*

On remand from the Supreme Court, the Federal Circuit found that PHE still applied to Festo's Stoll and Carroll patents.⁶¹ In its opinion, the court provided guidance on how to approach the three exceptions to PHE laid out by the Supreme Court in *Festo VIII*.⁶² First, the court acknowledged that PHE applies only to amendments that narrow the scope of a claim. If an amendment is determined to be narrowing, then, under *Warner-Jenkinson*, there is a rebuttable presumption that the amendment was made "for a substantial reason related to patentability."⁶³ The patentee then carries the burden to rebut the presumption using only evidence from the prosecution history.⁶⁴ The patentee can successfully rebut the presumption if it can show that the amendment was not made for reasons related to patentability.

If the patentee is unable to rebut the *Warner-Jenkinson* presumption, or if the reason given for the amendment in the prosecution history is related to patentability, then the *Festo* presumption applies.⁶⁵ In other words, there is a second presumption that the narrowing amendment surrendered all equivalents that fall in the territory between the unamended and amended claim limitation.

The patentee then has the burden of proving that it did not surrender the accused equivalent using one of the three exceptions the Supreme Court set forth: 1) the tangential exception, 2) the unforeseeability exception, or 3) the "some other reason" exception.

The court was clear that when an equivalent is found in the cited prior art, none of the three exceptions are available and PHE

⁵⁹ *Id.* at 740–41.

⁶⁰ *Id.* at 741–42.

⁶¹ *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. (Festo X)*, 344 F.3d 1359 (Fed. Cir. 2003).

⁶² *Id.* at 1366–67.

⁶³ *Id.* at 1366.

⁶⁴ *Id.* at 1367.

⁶⁵ *Id.*

applies.⁶⁶ The court explained that if the accused equivalent is found in the prior art in the same field of invention, it should have been foreseeable to one of skill in the art at the time of the amendment.⁶⁷ In addition, if the amendment was made to overcome prior art containing the equivalent, the reason for the amendment is directly related to the equivalent.⁶⁸ Lastly, the court held that a patentee could not have any other reason for not being able to describe the accused equivalent if it was in the prior art.⁶⁹

The court evaluated the Stoll and Carroll patents under these guidelines. It determined PHE presumptively applied because the amendments narrowed the claims and were made for patentability reasons. The court further found that Festo was unable to rebut the presumption that the amendments disclaimed the territory between the original limitations and the amended limitations.

The court found that because the applicant amended the Stoll patent during prosecution to add the “magnetizable” limitation, one of the two limitations at issue, the applicant presumptively disclaimed nonmagnetizable sleeves. Festo argued that the tangential exception applied. Specifically, Festo asserted that Stoll added the limitation when he rewrote multiple claims as a single independent claim in response to a 35 U.S.C. § 112 rejection, which meant that the “magnetizable” limitation was only tangential to the 35 U.S.C. § 112 rejection.⁷⁰ The Federal Circuit disagreed, determining that Festo failed to show that “the rationale for the ‘magnetizable’ amendment was only tangential to the *accused equivalent*.”⁷¹ The court concluded Festo could not satisfy the tangential exception for the “magnetizable” limitation, as the court could not discern the reason for the amendment from the prosecution history.⁷² Without a rationale for the amendment,

⁶⁶ See *id.* at 1369–70.

⁶⁷ *Id.* at 1369.

⁶⁸ *Id.* (“Although we cannot anticipate the instances of mere tangentialness that may arise, we can say that an amendment made to avoid prior art that contains the equivalent is not tangential; it is central to allowance of the claim.”).

⁶⁹ *Id.* at 1370 (“[A] patentee may not rely on the third rebuttal criterion if the alleged equivalent is in the prior art, for then ‘there can be no other reason the patentee could not have described the substitute in question.’” (quoting *Pioneer Magnetics, Inc. v. Micro Linear Corp.*, 330 F.3d 1352, 1357 (Fed. Cir. 2003))).

⁷⁰ *Id.* at 1371–72.

⁷¹ *Id.* at 1372 (emphasis added).

⁷² *Id.* at 1371–72. See *supra* Part I.C.1. The applicant added the “magnetizable” sleeve limitation after the patent examiner issued a § 112 rejection, but the amendment did not address the examiner’s rejection.

Festo could not show that the rationale was only tangential to the accused aluminum sleeve equivalent.⁷³

Regarding the second “sealing ring” limitations at issue in both the Stoll and Carroll patents, the Federal Circuit also held that Festo was unable to overcome the presumption that the narrowing amendments surrendered the equivalents at issue using the tangential exception.⁷⁴ The patent applicant amended the Stoll patent, which originally recited “sealing means,” to recite “first sealing rings” and “second sealing rings.” The court thus presumed that Stoll surrendered all “sealing means” other than structures with two sealing rings.⁷⁵ Festo argued the amendment to the Stoll patent was to “clarify” the invention in response to a 35 U.S.C. § 112 rejection.⁷⁶ As for the Carroll patent, although the original claims did not refer to any sealing rings, Festo amended the patent during reexamination to add the “pair of resilient sealing rings” limitation.⁷⁷ Festo argued that, because the German prior art patent at issue during reexamination already disclosed sealing rings, the amendment was not necessary to distinguish the prior art.⁷⁸

The Federal Circuit reiterated its holding in *Festo VII*, which was unaffected by the Supreme Court’s decision in *Festo VIII*, that both of the “sealing ring” limitations in the Stoll and Carroll patents were added to distinguish prior art.⁷⁹ Specifically, the court held that Festo overcame two prior art references by adding the “sealing rings” limitation to the Stoll patent.⁸⁰ Likewise, Festo overcame the sealing ring limitation disclosed in the German prior art patent by claiming a *pair* of sealing rings during reexamination of the Carroll patent.⁸¹ Thus, the court concluded that PHE presumptively applied and the reasons for the amendments were not tangentially related to the accused product, a single two-way sealing ring.⁸²

The Federal Circuit next found that Festo’s arguments were insufficient to show that there was “some other reason” that the applicant could not have been expected to draft the patent claims to

⁷³ *Id.* at 1371–72.

⁷⁴ *Id.* at 1373.

⁷⁵ *Id.* at 1373–74.

⁷⁶ *Id.* at 1373.

⁷⁷ *Id.* at 1372.

⁷⁸ *Id.* at 1373.

⁷⁹ *Id.* (citing *Festo VII*, 234 F.3d 558, 589, 591 (Fed. Cir. 2000)).

⁸⁰ *Id.* at 1372.

⁸¹ *Id.*

⁸² *Id.*

cover the accused equivalent.⁸³ Festo argued that it “could not reasonably have been expected to have drafted a claim to cover what was thought to be an inferior and unacceptable design.”⁸⁴ The court held that Festo’s reasoning indicated that Festo could have chosen to draft a claim to cover an aluminum sleeve, but chose not to because the element was “inferior.”⁸⁵ The court also found a lack of linguistic or “other” limitation that rendered the patent applicant unable to describe the accused equivalent, as the applicant could have claimed a nonmagnetizable sleeve just as he had claimed a magnetizable sleeve or could have generally claimed a “metal” sleeve.⁸⁶ The Federal Circuit rejected Festo’s similar argument that it could not have been expected to draft a claim to cover the accused sealing ring equivalent, which was inferior.⁸⁷ If the patent applicant knew about the equivalent and chose not to claim it, the court reasoned, Festo could not argue that the applicant was unable to describe the equivalent.⁸⁸ The court also found that Festo’s original claim of the Stoll patent, which recited “sealing means,” was broad enough to literally encompass the accused equivalent.⁸⁹ This was at odds with Festo’s argument that the applicant could not have been expected to broaden its original claim to capture the equivalent.⁹⁰ The court lastly held that there was no linguistic barrier preventing Festo from describing the single two-way sealing ring equivalent, because the difference between the claimed “sealing rings” and the equivalent was simply a matter of quantity.⁹¹

The court remanded the case for the district court to consider whether Festo could rebut the presumption that it surrendered the accused equivalent under the unforeseeability exception because issues of fact existed as to the objective unforeseeability of the accused equivalents at the time of the amendment.⁹²

⁸³ *Festo X*, 344 F.3d at 1373.

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ *Id.* at 1372.

⁸⁷ *Id.* at 1373.

⁸⁸ *Id.* 1372.

⁸⁹ *Id.* at 1373.

⁹⁰ *Id.*

⁹¹ *Id.* at 1373.

⁹² *Id.* at 1374.

4. *Festo XI: The Federal Circuit provided further guidance on the foreseeability exception to prosecution history estoppel.*

On remand after *Festo X*, the district court determined that Festo was unable to show that the accused aluminum sleeve and single two-way sealing ring equivalents were unforeseeable at the time of the amendment.⁹³ Festo appealed once again.

On appeal, in *Festo XI*,⁹⁴ the Federal Circuit held that “[a]n equivalent is foreseeable if one skilled in the art would have known that the alternative existed in the field of art as defined by the original claim scope, even if the suitability of the alternative for the particular purposes defined by the amended claim scope were unknown.”⁹⁵ The court expressly rejected Festo’s argument that the test for the unforeseeability exception should be the same test as determining infringement by equivalents, i.e. whether a person of ordinary skill in the art, at the time of the amendment, is able to foresee that the equivalent performs the same function, in the same way, with the same result or that the differences are merely insubstantial.⁹⁶

The court found that Festo’s original broader, independent claim did not require a sleeve to be made of “magnetizable” material, which meant that the sleeve could have been made of any material; the “magnetizable sleeve” was a limitation in another dependent claim.⁹⁷ The court noted that a German prior art patent cited in the prosecution history expressly claimed a sleeve made of “non-magnetic material.”⁹⁸ Because a non-magnetizable alternative was foreseeable and Festo chose not to claim it, the court concluded that Festo surrendered the aluminum sleeve equivalent.⁹⁹ Festo was therefore estopped from maintaining an assertion of infringement under the DOE because none of the exceptions to PHE applied.

⁹³ *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. (Festo XI)*, 493 F.3d 1368, 1375–76 (Fed. Cir. 2007).

⁹⁴ 493 F.3d 1368 (Fed. Cir. 2007).

⁹⁵ *Id.* at 1382.

⁹⁶ *Id.*

⁹⁷ *Id.*

⁹⁸ *Id.*

⁹⁹ *Id.* at 1383. Because the court found that Festo was barred by PHE for the “magnetizable sleeve” limitation, it did not reach the “sealing rings” limitation. *See id.*

II. THE FEDERAL CIRCUIT'S POST-*FESTO* APPLICATION OF THE TANGENTIAL EXCEPTION TO PROSECUTION HISTORY ESTOPPEL.

The Supreme Court held that a patentee may overcome PHE if the patentee is able to show that the *reason* for the narrowing amendment is merely “tangential” to the *accused equivalent*.¹⁰⁰ How this rule applies to various factual scenarios, however, is not always clear. This section of the article attempts to discern the scope of the application of the tangential exception to PHE by examining Federal Circuit cases decided since the Supreme Court’s *Festo VIII* decision, and to provide some guidance to evaluate when and why the tangential exception applies.

A. *The Reason for the Allegedly Tangential Amendment Must be Discernible Solely from the Intrinsic Record.*

The Federal Circuit, in *Festo X*, held that the tangential exception is an objective inquiry and the reason for the amendment must be discernible from the intrinsic record, i.e. the prosecution history.¹⁰¹ Unlike the foreseeability exception, extrinsic evidence may not be used in evaluating whether an amendment is merely tangential to the accused equivalent.¹⁰² Allowing the patentee to rely on extrinsic evidence, according to the court, would undermine the public notice function of a patent and its prosecution history.¹⁰³ Thus, only intrinsic evidence (such as the prosecution history) may be considered in evaluating whether the tangential exception applies.¹⁰⁴

¹⁰⁰ *Festo VIII*, 535 U.S. 722, 740–41 (2002).

¹⁰¹ *Festo X*, 344 F.3d 1359, 1369–70 (Fed. Cir. 2003).

¹⁰² *Id.* The court held that extrinsic evidence such as expert testimony should only be used when necessary to interpret the prosecution history. *Id.*

¹⁰³ *Id.*

¹⁰⁴ *Id.* at 1367 (“In this regard, we reinstate our earlier holding that a patentee’s rebuttal of the *Warner-Jenkinson* presumption is restricted to the evidence in the prosecution history record.”); see also *Talbert Fuel Sys. Patents Co. v. Unocal Corp.*, 347 F.3d 1355, 1360 (Fed. Cir. 2003) (citing *Festo X*, 344 F.3d at 1369–70) (“This court’s remand decision in *Festo* generally prohibits evidence outside the prosecution record in deciding this ground of rebuttal.”); *Pioneer Magnetics Inc. v. Micro Linear Corp.*, 330 F.3d 1352, 1356 (Fed. Cir. 2003) (“First, we do not consider the Beecher declaration in determining the reason for the amendment to the claim. Only the public record of the patent prosecution, the prosecution history, can be a basis for such a reason. Otherwise the public notice function of the patent record would be undermined.”).

As discussed in Part I.C.3, in *Festo X*, the Federal Circuit held that the tangential exception did not apply because the court could not discern the reason for the amendment from the prosecution history.¹⁰⁵ Without a rationale for the amendment, *Festo* could not show that the rationale was tangential to the accused equivalent.¹⁰⁶ And since the Federal Circuit's decision in *Festo X*, the Federal Circuit has required that the patentee proffer a reason for the amendment that is tangential to the accused equivalent and has routinely considered only intrinsic evidence in evaluating whether the tangential exception applies.¹⁰⁷

B. *Even if an Applicant Did Not Need to Amend A Claim in a Specific Way to Overcome the Prior Art, the Tangential Exception May Not Apply to that Added Limitation.*

¹⁰⁵ *Festo X*, 344 F.3d at 1371–72. The applicant added the “magnetizable” sleeve limitation after the patent examiner issued a § 112 rejection, but the amendment did not address the examiner’s rejection. *See supra* Part I.C.1.

¹⁰⁶ *Festo X*, 344 F.3d at 1371–72.

¹⁰⁷ *See, e.g.*, *A G Design & Assocs. LLC v. Trainman Lantern Co.*, 271 Fed. App'x 995, 998 (Fed. Cir. 2008) (The Federal Circuit held that AG conflated the tangential exception with the function-way-result test for infringement under the doctrine of equivalents by arguing that “[t]he addition of ports in the reflector bears only a tangential relationship to the equivalent in question,” which lacks a plurality of ports, because the accused product performs the claimed function in the same way. Because “AG has not put forth a rationale for the amendment that is tangential to the equivalent in question,” PHE precluded a finding of infringement under the doctrine of equivalents.); *Voda v. Cordis Corp.*, 536 F.3d 1311 (Fed. Cir. 2008) (holding that PHE barred a finding of equivalence because the patentee did not make any argument to overcome the presumption of PHE); *O2 Micro Int'l Ltd. v. Beyond Innovation Technology Co.*, 521 F.3d 1351, 1364 (Fed. Cir. 2008); *Business Objects, S.A. v. MicroStrategy, Inc.*, 393 F.3d 1366, 1374 (Fed. Cir. 2005) (The Federal Circuit held that the patentee overcame prior art by amending the method claim to add an “associating” step, because the prior art did not associate WHERE clauses with a familiar name. The accused equivalent, a method that associates something equivalent to a WHERE clause to a familiar name, was therefore directly rather than tangentially related to the reason for the amendment.); *Terlep v. Brinkman Corp.*, 418 F.3d 1379, 1385–86 (Fed. Cir. 2005) (“Terlep asserts that the prosecution history shows that the addition of the term ‘clear’ was merely to describe the plastic used for the claimed ‘plastic holder,’ and thus the addition of that term is not directly relevant to the accused equivalent. However, as discussed *supra*, Terlep amended claim 1 and argued patentability based on the diffusion characteristics of prior art LED devices and the absence of diffusion in the clear plastic tubular holder of the claimed invention. Thus, it cannot be said that the reason for adding ‘clear’ was tangential to the accused equivalents, which are holders that are ribbed and diffuse light.”); *Biagro Western Sales, Inc. v. Grow More, Inc.*, 423 F.3d 1296, 1306 (Fed. Cir. 2005).

Federal Circuit decisions indicate that when claim limitations were previously missing and added for patentability reasons, the presence of those limitations were likely at issue during prosecution. Therefore, the patentee could not later claim that the *reason* for the amendment is only tangential to an equivalent of the disputed limitation.¹⁰⁸

1. *Chimie v. PPG: The tangential exception does not apply even though the claimed equivalent was not in the prior art.*

In *Chimie v. PPG Industries*, the Federal Circuit held that the tangential exception did not apply to Chimie's "dust-free and non-dusting" limitation.¹⁰⁹ Chimie had a patent covering silica of a particular spheroidal shape and size, which is used as fillers in elastomeric products such as automobile tires.¹¹⁰ The district court found, and Chimie conceded on appeal, that Chimie added the "dust-free and non-dusting" limitation to its claim to distinguish the invention from prior art, which consisted of "powdered or granulated silicas."¹¹¹ Thus prosecution history presumptively applied.

The court rejected Chimie's argument that the *reason* for the amendment adding "dust-free and non-dusting" was merely tangential to the accused equivalent, "spray-dried silica microspheres."¹¹² Chimie argued that the amendment was tangential because the accused equivalent was not in the prior art.¹¹³ According to Chimie's reasoning, the amendment was not made to overcome prior art that contained the equivalent, and thus the tangential exception should apply.¹¹⁴ The Federal Circuit disagreed.¹¹⁵ It explained that while an amendment made to distinguish prior art that contains the equivalent is not tangential to the equivalent, the inverse is not necessarily true.¹¹⁶ The

¹⁰⁸ *Festo X*, 344 F.3d at 1369 ("In other words, this criterion asks whether the reason for the narrowing amendment was peripheral, or not directly relevant, to the alleged equivalent.").

¹⁰⁹ 402 F.3d 1371 (Fed. Cir. 2005).

¹¹⁰ *Id.* at 1374.

¹¹¹ *Id.* at 1380, 1382.

¹¹² *Id.* at 1383.

¹¹³ *Id.*

¹¹⁴ *Id.*

¹¹⁵ *Chimie*, 402 F.3d at 1383.

¹¹⁶ *Id.* ("It does not follow, however, that the equivalents not within the prior art must be tangential to the amendment.").

Federal Circuit concluded that Chimie surrendered all equivalents of silica that did not fit within the literal scope of the added limitation of “dust-free and non-dusting,” as Chimie’s patent covers an improvement over granulated silica in the prior art and the dustiness of the claimed silica was at issue during prosecution.¹¹⁷ Chimie was thus estopped from recapturing the accused “spray-dried silica microspheres,” which had dust levels higher than “dust-free and non-dusting.”¹¹⁸

2. *Felix v. American Honda: Silence does not overcome the presumption of PHE and it is irrelevant if the narrowing amendment did not secure allowance of the claim.*

In *Felix v. American Honda Motor Co.*, the Federal Circuit explained silence does not overcome the presumption of PHE, and it is irrelevant if the narrowing amendment did not secure allowance of the claim.¹¹⁹ In that case, patentee Felix made a first amendment cancelling original independent claim 1 and re-writing dependent claim 7 (which included channel and gasket limitations not present in claim 1) in independent form.¹²⁰ Even after Felix re-wrote claim 7, the PTO did not allow the claim.¹²¹ Felix then re-wrote claim 8, which contained additional limitations, in independent form, and the claim was allowed.¹²²

Felix then accused a product of infringing where the gasket of the accused compartment was not securely affixed to the compartment, even though the claims literally required “a weathertight gasket mounted on said flange and engaging said lid in its closed position.”¹²³ Felix argued that the amendment adding the gasket limitation was tangential to patentability and thus the tangential exception to PHE applied.¹²⁴ The district court found that the amendment was not tangential, such that PHE applied, and Felix appealed.¹²⁵

¹¹⁷ *Id.*

¹¹⁸ *Id.*

¹¹⁹ 562 F.3d 1167 (Fed. Cir. 2009).

¹²⁰ *Id.* at 1182.

¹²¹ *Id.*

¹²² *Id.*

¹²³ *Id.* at 1173, 1181.

¹²⁴ *Id.* at 1181.

¹²⁵ *Felix*, 562 F.3d at 1181.

The Federal Circuit agreed with the district court that the addition of the channel and gasket limitations and cancellation of claim 1 created a presumption of PHE with respect to the added elements in claim 7.¹²⁶ Felix argued that prosecution history estoppel did not apply to equivalents containing a gasket because “the first amendment ‘was made because the applicant thought the prior art lacked a channel,’ not because of the presence or position of a gasket.”¹²⁷ The court rejected this argument, reasoning that “[i]f Felix had intended only to add a channel and not add a gasket, he could easily have simply amended original claim 1 to add limitation (e) and not limitation (f).”¹²⁸ The court rejected the suggestion that silence could overcome the presumption of PHE: “Felix has identified no explanation in the prosecution history for the addition of the gasket limitation, and Felix therefore cannot meet his burden to show that the rationale for adding the gasket limitation was tangential to the presence and position of a gasket.”¹²⁹

The court also rejected Felix’s argument that PHE should not apply because the amendment was not successful in obtaining the claim and that a further amendment was needed:

The fact that the first amendment did not succeed and that a further amendment was required to place the claim in allowable form, however, is of no consequence as to the estoppel. It’s the patentee’s response to the rejection—not the examiner’s

¹²⁶ *Id.* at 1181–82 (citing *Honeywell Int’l, Inc. v. Hamilton Sundstrand Corp.*, 370 F.3d 1131, 1139 (Fed. Cir. 2004) (en banc)); *see infra* Part II.C.

¹²⁷ *Felix*, 562 F.3d at 1184 (emphasis in original).

¹²⁸ *Id.* (emphasis in original).

¹²⁹ *Id.*; *see also* *Honeywell Int’l, Inc. v. Hamilton Sundstrand Corp.*, 523 F.3d 1304, 1316 (Fed. Cir. 2008) (“Silence does not overcome the presumption.”); *O2 Micro Int’l Ltd. v. Beyond Tech. Co.*, 521 F.3d 1351, 1365 (Fed. Cir. 2008) (“The ‘objectively apparent’ reason for the patentee’s amendment was to require the feedback circuit to be operational ‘only if said feedback signal is above a predetermined threshold,’ as the claim language clearly states. No other reason is provided or suggested by the prosecution history.”); *Biagro W. Sales, Inc. v. Grow More, Inc.*, 423 F.3d 1296, 1306 (Fed. Cir. 2005) (“Biagro also argues that because only the lower limit of the claimed range was necessary to distinguish over prior art, the reason for the amendment is merely tangential to an accused equivalent at the upper end of the range. . . . [I]n this case, since the prosecution history shows no reason for adding an upper limit to the concentration range, Biagro cannot claim that the rationale for the amendment is merely tangential.”).

ultimate allowance of a claim—that gives rise to prosecution history estoppel.¹³⁰

3. *Integrated v. Rudolph*: *Tangential exception did not apply because while the applicant may not have needed to add the limitation to overcome the prior art, it did add the limitation and that was a potential reason for overcoming the prior art.*

In *Integrated Technology Corp. v. Rudolph Technologies, Inc.*,¹³¹ the Federal Circuit reversed the district court and held that PHE barred Integrated from recovering under the DOE.¹³² At issue was the accused infringement of a patent directed at the inspection equipment for probe cards used to test chips on semiconductor wafers.¹³³ The patented system allowed individuals to view whether the probes had become misaligned based on the three-dimensional relationship to each other, as measured by taking the coordinates in a first and second state.¹³⁴

As originally filed, the patent application claimed “a window with a flat surface contacted by said probe tip.”¹³⁵ This claim was rejected as anticipated under 35 U.S.C. § 102(b) and as indefinite under 35 U.S.C. § 112, second paragraph.¹³⁶ Integrated amended the claim to recite “in a first state where said probe tip is driven in contact with said window with a first force, and in a second state where said probe tip is driven in contact with said window with a second force.”¹³⁷ The accused Rudolph instrument took an image in the first state above the viewing window.¹³⁸ In this manner, the Rudolph instrument was a no-touch product and thus did not literally infringe. Integrated argued there was infringement under the DOE, and Rudolph argued that PHE applied to bar equivalents infringement.¹³⁹

This district court found that PHE did not apply.¹⁴⁰ The court reasoned that because both the original and issued claims required contact

¹³⁰ *Felix*, 562 F.3d at 1182–83.

¹³¹ 734 F.3d 1352 (Fed. Cir. 2013). The authors were involved with this case.

¹³² *Id.* at 1355.

¹³³ *Id.*

¹³⁴ *Id.*

¹³⁵ *Id.* at 1356.

¹³⁶ *Id.*

¹³⁷ *Id.* at 1355 (emphasis omitted).

¹³⁸ *Id.*

¹³⁹ *Id.*

¹⁴⁰ *Id.* at 1356.

between the plate and the probe, there had been no narrowing amendment.¹⁴¹ On appeal, the Federal Circuit disagreed and held that there had been a narrowing amendment because the original claims did not require contact in both states, and the amended claims did.¹⁴² Thus, PHE presumptively applied.¹⁴³

The Federal Circuit further concluded that the tangential exception to prosecution history estoppel did not apply. The Federal Circuit held that the reasoning for the amendment was not “objectively apparent from the prosecution history.”¹⁴⁴ While Integrated may not have needed to surrender lack of physical contact to overcome prior art that disclosed contact between the plate and probe, Integrated chose to add language requiring that the probe tip be driven into contact with the plate in a first and second state, and that did distinguish the prior art. The Court likened the case to its decision in *Felix v. American Honda Motor Co.*, because like that case, the patentee chose to add two limitations when only one non-tangential limitation was required to distinguish the prior art.¹⁴⁵ The Federal Circuit also noted that during prosecution, Integrated represented to the public that it relied on physical contact to overcome the prior art.¹⁴⁶ Thus, the Court concluded that Integrated did not meet its burden to rebut the presumption of PHE by showing that the narrowing amendment was only tangentially related to the equivalent.¹⁴⁷

4. *Intervet v. Merial: Amendment was tangential to one equivalent, but not to another.*

In *Intervet Inc. v. Merial Ltd.*,¹⁴⁸ the Federal Circuit applied the tangential exception. The patent at issue in that case covered PCV-2, a pathogenic type of porcine circovirus.¹⁴⁹ The patentee, Merial, identified five strains that are representative of PCV-2, deposited the five strains with the USPTO, and disclosed the full DNA sequence for

¹⁴¹ *Id.*

¹⁴² *Id.* at 1357–58.

¹⁴³ *Id.*

¹⁴⁴ *Id.* at 1358.

¹⁴⁵ *Id.* (citing *Felix v. Am. Honda Motor Co.*, 562 F.3d 1167, 1184 (Fed. Cir. 2009)).

¹⁴⁶ *Id.* at 1359.

¹⁴⁷ *Id.* See also *Lucent Techs., Inc. v. Gateway, Inc.*, 525 F.3d 1200, 1218 (Fed. Cir. 2008) (“It is not relevant to the determination of the scope of the surrender that the applicant did not need to amend the claims [as they were amended] in order to overcome the prior art.”).

¹⁴⁸ 617 F.3d 1282 (Fed. Cir. 2010).

¹⁴⁹ *Id.* at 1285.

four of the strains.¹⁵⁰ The four representative PCV-2 strains that are sequenced have ninety-six percent nucleotide homology with each other but only seventy-six percent nucleotide homology with a representative strain of PCV-1, named PK/15, which is nonpathogenic. Merial also identified thirteen open reading frames (“ORFs”) in one of the four representative PCV-2 sequences.¹⁵¹

During patent prosecution, Merial originally claimed “ORFs 1-13” without specifying that they were limited to PCV-2.¹⁵² The patent examiner rejected the claim because 1) it captured ORFs from all organisms rather than just porcine circovirus, and 2) the claim was anticipated by PCV-1, as four of the thirteen ORFs are found in both PCV-1 and PCV-2.¹⁵³ Merial overcame the rejection by amending the claim to read ORFs 1 to 13 “of porcine circovirus type II.”¹⁵⁴

Intervet’s accused vaccine product had a nucleotide sequence that had 99.7% homology to one of Merial’s five deposited sequences.¹⁵⁵ The district court held that Intervet did not literally infringe because the nucleotide sequence was not the exact same as any of the deposited sequences and that Merial could not assert infringement by equivalents because of PHE.¹⁵⁶ Because the district court’s claim construction was flawed, the Federal Circuit reversed and remanded the case for consideration of literal infringement.¹⁵⁷ The Federal Circuit also considered the district court’s holding that Merial was barred from asserting infringement under the DOE due to PHE.¹⁵⁸

The Federal Circuit held that the amendment was narrowing and that Merial surrendered the territory between PCV-1 and PCV-2.¹⁵⁹ As the court explained, “PCV-2” was previously missing from the claim set, but Merial added the limitation and narrowed its claim.¹⁶⁰ Merial was therefore estopped from asserting any equivalents of PCV-2.

¹⁵⁰ *Id.*

¹⁵¹ *Id.* Open reading frames are portions of the nucleotide sequence between the start and stop codons that code for proteins.

¹⁵² *Id.* at 1291.

¹⁵³ *See id.*

¹⁵⁴ *Id.*

¹⁵⁵ *Id.* at 1286.

¹⁵⁶ *Id.* 1290.

¹⁵⁷ *Id.*

¹⁵⁸ *Id.*

¹⁵⁹ *Id.* at 1291.

¹⁶⁰ *Id.*

However, the Federal Circuit held that PHE did not preclude Merial from arguing that “a pathogenic porcine viral sequence with over ninety-nine percent nucleotide homology with one of the five representative strains is equivalent to that strain.”¹⁶¹ The Federal Circuit held that the reason for the amendment, to limit the *claimed ORFs to PCV-2*, was only tangential to accused equivalents that could be characterized as PCV-2.¹⁶² The court remanded the case for consideration of infringement under the DOE in addition to literal infringement.¹⁶³ The patentee was therefore allowed to argue that the ninety-nine percent homologous sequence is an equivalent to the claimed sequence, as long as the patentee could show that the accused equivalent could be characterized as PCV-2.

5. Discussion.

The Federal Circuit’s *Festo X* and *Chimie* decisions indicate that when a patent applicant adds a limitation to a claim that was previously missing from a claim set to overcome the prior art, it is likely that the court will find that the added limitation is directly rather than tangentially related to the accused equivalent, even if it was not necessary to add the limitation. Because the patent applicants added the claim limitations in order to distinguish their inventions from the prior art, the applicants conceded the true boundaries of their invention. The applicants could not later claim that the reasons for adding those limitations are only tangentially related to equivalents that fall outside the boundaries they established.

The court’s decision in *Intervet* is likewise consistent with *Festo X* and *Chimie*, as the patentee was still estopped from asserting infringement under the DOE for any accused equivalent of PCV-2, which was the limitation the patent applicant added to overcome a patentability rejection.

C. *If an Applicant Amends an Independent Claim for Patentability Reasons to Recite a Limitation Previously Found in a Dependent Claim, the Tangential Exception Is*

¹⁶¹ *Id.* at 1292.

¹⁶² *Id.* Although Merial could not assert the DOE to capture equivalents of PCV-2, Merial could assert the DOE to capture equivalents of the claimed ORFs that fall within the literal construed definition of PCV-2.

¹⁶³ *Id.*

Available for Aspects of the Limitations That Were Not at Issue During Prosecution.

The Federal Circuit has found that the tangential exception may apply in cases where a patent applicant narrowed an independent claim by including a limitation that was previously in a dependent claim.

1. *Insituform v. Cat*: *When it was clear from the prosecution history that the amended language was not relevant to the amendments over the prior art, the tangential exception applied.*

Insituform Technologies, Inc. v. Cat Contracting Inc., like *Festo X*, was a case where the Federal Circuit reconsidered its decision after the Supreme Court overturned the short-lived complete bar to the DOE for any amended claim element.¹⁶⁴ It is also the first case after *Festo VIII* where the Federal Circuit found that the tangential exception to PHE applied.

Insituform's patent application covered a process for impregnating a liner with resin and installing the liner into an underground pipe in order to repair it while in the ground.¹⁶⁵ The claimed process involved application of a vacuum inside the liner. The claim, as originally drafted, was rejected over prior art that disclosed "use of a continuous vacuum and the creation of that vacuum from only a single vacuum source at the far end of the tube opposite the resin source."¹⁶⁶ Insituform amended its independent claim 1 to include the limitations in dependent claims 2–4 and also to require the vacuum source to be located closer to the resin source.¹⁶⁷ In doing so, Insituform thereby imported the limitation, "a cup," from dependent claim 4 into the independent claim. Specifically, Insituform amended original claim 1 in relevant part as follows, with the underlined material added and removed material stricken, with the amended language at-issue in bold:

¹⁶⁴ See *Insituform Techs., Inc. v. Cat Contracting*, 385 F.3d 1360 (Fed. Cir. 2004).

¹⁶⁵ *Id.* at 1362.

¹⁶⁶ *Id.* at 1369.

¹⁶⁷ *Id.*

~~A method of impregnating a flexible tube comprising with a curable resin an inner layer of resin absorbent material and disposed in an elongate flexible tube having an outer layer in the form of formed by an impermeable film, wherein the method comprising the resin absorbent layer is impregnated with a curable resin by applying steps of . . . (3) drawing through the inflow a vacuum to the inside of the interior of the tube downstream of said one end by disposing over the window a cup connected by a flexible tube whilst the resin is brought into impregnation contact with the resin absorbent material, the impermeable film serving as a means to prevent hose to a vacuum source which cup prevents ingress of air into the interior of the tube whilst the impregnation process is taking place while the tube is being evacuated, the other layer of the tube being substantially impermeable to air. . . .~~¹⁶⁸

The defendant argued that PHE barred Insituform from asserting infringement by the DOE over its product, which used multiple cups rather than a single cup.¹⁶⁹ The Federal Circuit disagreed, holding that the *number* of cups in Insituform's claim was never at issue during patent prosecution.¹⁷⁰ The court pointed to the prosecution history, where Insituform expressly argued to the patent examiner that its invention was patentable over prior art because the *location* of the suctioning cup was closer to the resin source.¹⁷¹ The Federal Circuit concluded that the *reason* for the amendment, to alter the location of the vacuum, was merely tangential to the accused multiple-cup *equivalent*.¹⁷²

2. *Funai v. Daewoo: When a dependent claim is re-written as independent, the tangential exception*

¹⁶⁸ *Id.* at 1364, 1368–69 (represented as amended claim 1 would appear in the prosecution history).

¹⁶⁹ *Id.* at 1370.

¹⁷⁰ *Id.* at 1369.

¹⁷¹ *Id.*

¹⁷² *Id.* at 1370.

applies to the original elements of the dependent claim if they were not at-issue during prosecution.

*Funai Electric Co., Ltd. v. Daewoo Electronics Corp.*¹⁷³ involved a similar narrowing amendment. Funai was in the business of making video cassette players and recorders (“VCRs”) and had a patent over a process of limiting noise and vibration created by a VCRs driving motor.¹⁷⁴ During prosecution, the patent examiner rejected independent claim 1 and dependent claims 2–3 as obvious in view of two prior art patents that disclosed electrically insulating the motor.¹⁷⁵ Because the examiner stated that dependent claim 4 was allowable, the patent applicant canceled claims 1–3 and rewrote claim 4 in independent form. Thus, the original language in claim 4, including “wherein said bearing holder is made of an insulating material,” was imported into new independent claim 1.¹⁷⁶

The defendant argued that Funai was barred by PHE from asserting infringement by equivalents over its VCR product, which had a bearing holder material that was only ninety-two percent insulating.¹⁷⁷ The Federal Circuit disagreed, holding that Funai was not estopped from asserting the DOE because the *nature* of the insulating material was never at issue during prosecution.¹⁷⁸ The reason for the amendment was to require electrical insulation, which was merely tangential to the alleged equivalent of the defendant’s ninety-two percent insulating material.¹⁷⁹

3. *Honeywell v. Hamilton: When a dependent claim is re-written as independent, the tangential exception does not apply if the original elements of the dependent claim were at-issue during prosecution and necessary to overcome the prior art.*

¹⁷³ *Funai Elec. Co., Ltd. v. Daewoo Elecs. Corp.*, 616 F.3d 1357 (Fed. Cir. 2010).

¹⁷⁴ *Id.* at 1362, 1368.

¹⁷⁵ *Id.* at 1369.

¹⁷⁶ *Id.*

¹⁷⁷ *Id.* at 1367. The district court held that the accused product did not literally infringe because it was only ninety-two percent insulating. *Id.*

¹⁷⁸ *Id.* at 1369.

¹⁷⁹ *Id.*

In *Honeywell International, Inc. v. Hamilton Sundstrand Corp.*,¹⁸⁰ on the other hand, the court declined to apply the tangential exception. Honeywell's patent was directed to a surge control system for controlling airflow in aircraft engines.¹⁸¹ At issue during litigation was Honeywell's "inlet guide vane" limitation, which was absent from the original independent claim but present in dependent claims.¹⁸² The court referred to the "inlet guide vane" limitation as including both the inlet guide vane's structure and function.¹⁸³ During prosecution, after the patent examiner rejected the independent claim as obvious in light of prior art, the patent applicant added the "inlet guide vane" limitation by rewriting the dependent claim in independent form and canceling the original independent claim.¹⁸⁴

The Federal Circuit affirmed the district court's holding that Honeywell was estopped from asserting infringement by equivalents over the defendant's surge control system, which also included an inlet guide vane, but did not literally infringe because it performed its function differently.¹⁸⁵ The court held that, because the patent applicant added the "inlet guide vane" limitation to overcome an obviousness rejection, the reason for the adding limitation was directly rather than merely tangentially related to the accused equivalent.¹⁸⁶

Judge Newman dissented from the panel majority's decision, pointing out that the "inlet guide vane" limitation itself was never amended during prosecution.¹⁸⁷ She argued that the majority's decision meant that the tangential exception never applies when a limitation asserted against an infringer was imported from an original dependent claim into an amended independent claim.¹⁸⁸

4. Discussion.

When a limitation is already present in the claim set and merely imported from a dependent claim to an independent claim, it may be easier to discern how the amendment overcame prior art

¹⁸⁰ 523 F.3d 1304 (Fed. Cir. 2008).

¹⁸¹ *Id.* at 1307.

¹⁸² *Id.* at 1308.

¹⁸³ *Id.* at 1316.

¹⁸⁴ *Id.* at 1308.

¹⁸⁵ *Id.* at 1315.

¹⁸⁶ *Id.* at 1316.

¹⁸⁷ *Id.* at 1317 (Newman, J., dissenting).

¹⁸⁸ *Id.* at 1322.

rejections and which aspects of the limitation were affected by the amendment. In *Insituform* and *Funai* the aspects of the limitation such as quantity and type, respectively, were not affected by the amendment. The Federal Circuit, therefore, held that the patentees were not estopped from asserting the DOE.¹⁸⁹

At first blush, *Honeywell* appears to be inconsistent with *Insituform* and *Funai*. All three cases involved narrowing amendments where a limitation was imported from a dependent claim to an independent claim in order to overcome prior art.¹⁹⁰ The Federal Circuit, however, applied the tangential exception in *Insituform* and *Funai*, but not in *Honeywell*.¹⁹¹ The reason for the different treatment between these cases—at least the one the Federal Circuit appeared to rely upon—could simply be that the limitations in *Insituform* and *Funai* were not relevant during prosecution and the limitation in *Honeywell* was.

One point of distinction that the Federal Circuit did not specifically draw is that *Honeywell* involved an amendment that affected the same aspect of the imported limitation as the equivalent, i.e. the inlet guide vane's function, whereas the amendments in *Insituform* and *Funai* affected different aspects of the invention, i.e. quantity and type, respectively. The *Honeywell* court expressly noted that the “inlet guide vane” limitation refers to both the structure and function.¹⁹² By adding the “inlet guide vane” limitation, the reason for the amendment was to make both the structure and function of the inlet guide vane distinguishing features in order to overcome a patentability rejection. *Honeywell*, therefore, could not show that the reason for the amendment was only tangentially related to the accused equivalent, an inlet guide vane that functioned in a different manner.

D. *The Tangential Exception Applies to Claim Elements That Were Never Narrowed During Patent Prosecution.*

The Federal Circuit has found that the tangential exception applies to overcome the PHE presumption when the claims at issue

¹⁸⁹ *Id.* at 1318.

¹⁹⁰ *See id.* at 1306; *Insituform Techs., Inc. v. Cat Contracting*, 385 F.3d 1360 (Fed. Cir. 2004); *Funai Elec. Co., Ltd. v. Daewoo Elecs. Corp.*, 616 F.3d 1357, 1369 (Fed. Cir. 2010).

¹⁹¹ *Compare supra* Part 2.C.3, *with supra* Parts II.C.1, II.C.2.

¹⁹² *Honeywell*, 523 F.3d at 1316.

were narrowed during prosecution, but the claim elements asserted against the equivalents were not.

1. *Regents v. DakoCytomation: When the amendment relates to a claim element that was not at issue and not specifically narrowed throughout the claim in relevant part, the tangential exception applies.*

In *Regents of the University of California v. DakoCytomation California, Inc.*,¹⁹³ the claimed invention covered a method of staining chromosomal DNA where nucleic acids are used to block repetitive sequences while probes target unique sequences.¹⁹⁴ The claim at issue, in its original form, was rejected in view of a prior art reference that disclosed the use of unique sequence probes rather than blocking, and a second prior art reference that disclosed use of the blocking method but not to target unique sequences.¹⁹⁵ The patent applicant overcame the prior art rejections by narrowing the claims to the blocking method and pursuing other embodiments of the invention in other applications.¹⁹⁶ In doing so, the applicant amended the claim language “blocking the labeled repetitive nucleic acid fragments” to read “employing said . . . blocking nucleic acid . . . so that labeled repetitive sequences are substantially blocked.”¹⁹⁷

The accused product used peptide nucleic acids, which are synthetic nucleic acids, rather than human DNA.¹⁹⁸ The district court granted the defendants summary judgment of noninfringement, holding that the defendants did not literally infringe because the accused products did not use human DNA and that the patentee was barred from asserting the DOE because the patentee amended the “blocking nucleic acid” limitation during prosecution and narrowed its scope.¹⁹⁹ On appeal, the patentee argued that there was no narrowing amendment because “nucleic acid” limitation was never narrowed during

¹⁹³ 517 F.3d 1364 (Fed. Cir. 2008).

¹⁹⁴ *Id.* at 1368.

¹⁹⁵ *Id.* at 1378.

¹⁹⁶ *Id.*

¹⁹⁷ *Id.* at 1377–78.

¹⁹⁸ *Id.* at 1376.

¹⁹⁹ *Id.*

prosecution.²⁰⁰ The patentee also argued, in the alternative, that any narrowing amendment was tangential to the accused equivalent.²⁰¹

While the Federal Circuit agreed with the district court that the presumption of PHE applied because “the patentees limited the claim to the blocking method at least in part to overcome the examiner’s rejections, the patentees presumptively surrendered all equivalents of the ‘blocking nucleic acid’ limitation.”²⁰² But the court further concluded that the presumption was overcome because the tangential exception applied.²⁰³ The Federal Circuit found that the *type* of nucleic acid was never at issue during patent prosecution, as evidenced by the office action, summary of the interview between the patent applicant and examiner, and patentees’ remarks.²⁰⁴ The court further noted that the “nucleic acid” limitation was never narrowed.²⁰⁵ Thus, the Federal Circuit concluded that the patentee overcame the presumption of PHE because the reason for the amendment (adding the method of “blocking” to distinguish the method over the prior art) was tangential to the claimed equivalent (the particular type of nucleic acid), and remanded the case to the district court to consider infringement under the DOE.²⁰⁶

2. *Primos v. Hunter: When the amendment relates to a claim element that was not at issue and not specifically narrowed throughout the claim in relevant part, the tangential exception applies.*

Similarly, the Federal Circuit found the tangential exception applied in *Primos, Inc. v. Hunter’s Specialties, Inc.*, which involved a claim element that was arguably never narrowed during prosecution.²⁰⁷ *Primos’s* patented invention was a game call device hunters used to simulate animal sounds.²⁰⁸ The amendment during prosecution required

²⁰⁰ *Id.*

²⁰¹ *Id.*

²⁰² *Id.* at 1377–78.

²⁰³ *Id.* at 1378.

²⁰⁴ *Id.*

²⁰⁵ *Id.*

²⁰⁶ *Id.*

²⁰⁷ *Primos, Inc. v. Hunter’s Specialties, Inc.*, 451 F.3d 841 (Fed. Cir. 2006).

²⁰⁸ *Id.* at 843–44.

the claim element at issue, a “plate,” to 1) have a “length” and 2) be “differentially spaced” above a membrane.²⁰⁹

The defendant argued that Primos was barred from asserting the DOE to capture the accused device, which had a “dome” rather than a “plate” as construed by the district court.²¹⁰ The district court held that adding the “length” limitation did not alter the claim scope.²¹¹ The court held that the addition of the “differentially spaced” limitation, on the other hand, did narrow the scope of the claim and further assumed that the amendment was made for reasons related to patentability.²¹² However, the district court held that the patentee surrendered only plates that are not “differentially spaced” above the membrane.²¹³

On appeal, the Federal Circuit agreed with the district court that the addition of the term “length” was not a narrowing amendment because “every physical object has a length.”²¹⁴ The court also agreed that the “differentially spaced” limitation was a narrowing amendment presumptively made for reasons related to patentability.²¹⁵ The Federal Circuit then held that the territory Primos surrendered included all equivalents that were not differentially spaced above the membrane, because the patentee distinguished prior art that contained a structure positioned on top of a membrane without any spacing.²¹⁶ Because the accused device had a dome that was differentially spaced above the membrane, the reason for the amendment requiring a plate that was differentially spaced was merely tangential to the accused equivalent.²¹⁷ In other words, while the narrowing amendment affected the *position* of the plate relative to other claim elements, the “plate” element itself was never narrowed. Equivalents were therefore available for the “plate” element (such as the accused “dome”), irrespective of the equivalent’s size, shape, color, etc.

²⁰⁹ *Id.* at 849.

²¹⁰ *Id.* at 848.

²¹¹ *Id.* at 845.

²¹² *Id.* at 845.

²¹³ *Id.*

²¹⁴ *Id.* at 849.

²¹⁵ *Id.*

²¹⁶ *Id.* at 849.

²¹⁷ *Id.* While the Federal Circuit cited the correct legal standard, “*the rationale* underlying the amendment may bear no more than a tangential relation to the equivalent in question,” its conclusion stated, “*the amendment* was merely tangential to the contested element.” *Id.* (emphasis added). The authors believe that the Federal Circuit is applying the correct law, but note that the Federal Circuit may misstate the law from time to time in its decisions.

3. Discussion.

Both *Regents* and *Primos* were cases where the specific claim elements asserted against the equivalent were never narrowed during prosecution, although the same language may have been added elsewhere during prosecution. Any amendments to the claims as a whole were therefore tangential to accused equivalents of the unamended claim elements.

In fact, it is arguable that PHE should not have attached in the first place in these cases, as there was not a narrowing amendment to the relevant portion of the claim, in which case the Federal Circuit did not need to perform the tangential exception analysis. In *Festo X*, the Federal Circuit clarified that PHE applies to an amendment that narrows the literal scope of a claim.²¹⁸ Presumably the rule should apply to amendments that narrow the literal scope of a claim *element*, instead of any part of the claim. Such a rule would more directly address the ultimate question of whether PHE should apply and would allow the court to avoid an unnecessary tangential exception analysis. Because the same claim element was added elsewhere, though, the court may have felt it necessary to apply the prosecution history presumption and then consider the exceptions.

In *Regents*, the court expressly recognized that the “nucleic acid” limitation was never narrowed, but continued to hold that the amendment was not tangential to the accused equivalent.²¹⁹ The court’s statement that “[t]he prosecution history therefore reveals that in narrowing the claim to overcome the prior art rejections, the focus of the patentees’ arguments centered on the method of blocking—not on the particular type of nucleic acid that could be used for blocking,” suggests that it will perform the tangential exception analysis if the claim is narrowed, even if the claim element at issue was not.²²⁰

E. *The Tangential Exception Does Not Apply to Asserted Equivalents of Claim Elements Relied Upon to Overcome 35 U.S.C. § 112 Rejections.*

²¹⁸ *Festo X*, 344 F.3d 1359, 1366 (Fed. Cir. 2003).

²¹⁹ *Regents of the Univ. of Cal. v. DakoCytomation Cal., Inc.*, 517 F.3d 1364, 1376 (Fed. Cir. 2008).

²²⁰ *Id.* at 1378.

In two cases where the Federal Circuit considered claim limitations that were added to overcome 35 U.S.C. § 112 rejections, it declined to apply the tangential exception to allow the patentees to assert infringement under the DOE to capture equivalents of those limitations.²²¹ Section 112, paragraphs 1 and 2, require patent applicants to draft the specification to describe the “manner and process of making and using it, in such full, clear, concise, and exact terms,” as well as, “conclude with one or more claims particularly pointing out and distinctly claiming the subject matter.”²²²

1. *Cross Medical v. Medtronic: The tangential exception does not apply to an amendment that is made to overcome a § 112 rejection that is necessary and narrows the patent’s scope.*

*Cross Medical Products v. Medtronic Sofamor Danek, Inc.*²²³ was a *per curiam* decision that did not garner a majority vote from the three-judge Federal Circuit panel. Cross Medical’s patent was directed to a device for stabilizing bone segments of the spine.²²⁴ The claim limitation at issue recited, “seat means including a vertical axis and first threads which extend . . . to a depth below the diameter of the rod.”²²⁵ This limitation was not in the claim as originally drafted, but was added in response to the patent examiner’s rejection of the claim as lacking an antecedent basis and support in the specification under 35 U.S.C. § 112, paragraphs 1 and 2.²²⁶

Medtronic’s accused polyaxial screw device had a groove or “undercut” below the rod rather than threads.²²⁷ The district court held that the accused product did not literally infringe the asserted claim because it lacked threads.²²⁸ But the district court held that despite Cross Medical’s narrowing amendment involving the asserted thread depth limitation to overcome a 35 U.S.C. § 112 rejection, the amendment was merely tangential to the accused equivalent.²²⁹ The

²²¹ See *infra* Parts 2.E.1–2.E.2.

²²² 35 U.S.C. § 112 (2012).

²²³ 480 F.3d 1335 (Fed. Cir. 2007).

²²⁴ *Id.* at 1339.

²²⁵ *Id.*

²²⁶ *Id.* at 1340.

²²⁷ *Id.* at 1339.

²²⁸ *Id.*

²²⁹ *Id.* at 1340.

district court granted summary judgment of infringement under the DOE, and Medtronic appealed.²³⁰

On appeal, the Federal Circuit considered whether Cross Medical was able to overcome the presumption of PHE due to its narrowing amendment to overcome the patent examiner's 35 U.S.C. § 112 rejection involving the thread depth limitation. The court held that, "if a § 112 amendment is necessary and narrows the patent's scope—even if only for the purpose of better description—estoppel may apply."²³¹ The court found that the prosecution history revealed that the reason for the amendment was to overcome the 35 U.S.C. § 112 rejection by describing how the invention operated.²³² As the court explained,

In other words, the prosecution history explains that the thread depth limitation was added to capture the manner in which the stabilizer aspect of the invention operated and thereby overcome the 35 U.S.C. § 112 rejections. Thus, the accused equivalent, which does not include threads extending "to a depth below the top of the stabilizer" and correspondingly does not capture this aspect of the invention, relates to the amendment as shown even by the applicant's own statements. For this reason, the district court erred in reliance on the tangential rebuttal principle to avoid the doctrine of equivalents.²³³

Because the accused equivalent operated in a different manner, it was not tangential to the amendment.²³⁴ The court emphasized that the tangential exception is "very narrow" and held that Cross Medical was unable to overcome the presumption of PHE under the narrow exception.²³⁵

Judge Rader wrote a concurring opinion to express his dissatisfaction with the tangential exception.²³⁶ He argued that the

²³⁰ *Id.* at 1337.

²³¹ *Id.* at 1341 (citing *Honeywell Int'l, Inc. v. Hamilton Sundstrand Corp.*, 370 F.3d 1131, 1142 (Fed. Cir. 2004)).

²³² *Id.* at 1343.

²³³ *Id.*

²³⁴ *Id.*

²³⁵ *Id.* at 1341–42.

²³⁶ *Id.* at 1346 (Rader, J., concurring).

tangential exception conflicts with the policy behind public notice of the claimed invention.²³⁷ According to Judge Rader, the reasons that would support an application of the tangential exception would not be found in the prosecution history because a patentee would assert reasons that are unrelated to narrowing amendments that surrender the equivalent at issue.²³⁸ He asserted that the tangential exception produces the perverse result where a patentee is rewarded by providing vague explanations so that it can later argue that the amendment is merely tangential to the accused equivalent.²³⁹ The public, relying on the prosecution history for narrowing amendments and believing the patentee to have surrendered certain equivalents, would fall prey to infringement charges when the patentee comes forth with some reasoning why the reason for the amendment is merely tangential to the accused equivalent.²⁴⁰

2. *International Rectifier v. IXYS: The tangential exception does not apply to an amendment that is made to overcome a § 112 rejection, even if the amendment was not necessary.*

In *International Rectifier Corp. v. IXYS Corp.*,²⁴¹ the Federal Circuit again declined to apply the tangential exception to a claim limitation that was added in order to overcome a 35 U.S.C. § 112 rejection.²⁴² International Rectifier's ("IR's") patent was drawn to semiconductor transistors, and the claim at issue recited a structure with "adjoining" components.²⁴³ IR added the "adjoining" limitation to its claim in response to the patent examiner's rejection of the original claim under 35 U.S.C. § 112 because the claimed structures were not supported by the specification.²⁴⁴

IR argued that the reason for the "adjoining" limitation was tangential to the accused equivalent of non-adjoining components because IR added the limitation when amending the claim to recite

²³⁷ *Id.* at 1347.

²³⁸ *Id.*

²³⁹ *Id.*

²⁴⁰ *Id.*

²⁴¹ 515 F.3d 1353 (Fed. Cir. 2008).

²⁴² *Id.* at 1359.

²⁴³ *Id.* at 1355.

²⁴⁴ *Id.* at 1359.

structures that were supported by the specification.²⁴⁵ The Federal Circuit rejected the argument, holding that, as “IR recited precisely the structure it disclosed, and thereby overcame the examiner’s 35 U.S.C. § 112 rejection,” the reason for the amendment was not tangential to the accused equivalent of non-adjoining components.²⁴⁶ The Federal Circuit held that it was irrelevant whether IR was required to add the limitation in order to overcome the examiner’s rejection of the claim.²⁴⁷

3. Discussion.

In both *Cross Medical* and *International Rectifier*, the Federal Circuit declined to apply the tangential exception to equivalents of claim elements amended in response to 35 U.S.C. § 112, paragraphs 1 and 2. In both cases, equivalents were unavailable because the patent examiners required the patent applicants to recite the *exact* invention in order to overcome the 35 U.S.C. § 112 rejection. Because the limitations that would encompass the accused equivalents were added to overcome these patentability rejections, the reasons for the amendments were directly rather than tangentially related to the claimed equivalents.

III. THE FEDERAL CIRCUIT’S POST-*FESTO* APPLICATION OF THE UNFORESEEABILITY EXCEPTION TO PROSECUTION HISTORY ESTOPPEL.

In *Festo VIII*, the Supreme Court also created the “unforeseeability” exception to the DOE, reasoning that a patent applicant cannot surrender what is unforeseeable when it makes a narrowing amendment.²⁴⁸ In *Festo X*, the Federal Circuit held that the test for the unforeseeability exception is whether one of ordinary skill in the art would have foreseen the alleged equivalent at the time of the amendment.²⁴⁹ The court explained that the inquiry is objective, and a district court may consider evidence outside of the prosecution history such as expert testimony.²⁵⁰

²⁴⁵ *Id.*

²⁴⁶ *Id.*

²⁴⁷ *Id.*

²⁴⁸ *Festo VIII*, 535 U.S. 722, 738 (2002).

²⁴⁹ *Festo X*, 344 F.3d 1359, 1369 (Fed. Cir. 2003).

²⁵⁰ *Id.*

The Federal Circuit did not find that the unforeseeability exception applied in the *Festo* litigation, nor in any case following *Festo*.²⁵¹ In cases since *Festo* where the Federal Circuit has considered and rejected the unforeseeability exception, the court has unequivocally held, consistent with its guidance in *Festo X*, that an accused equivalent is foreseeable if it was known in the field of the invention at the time of the narrowing amendment.²⁵²

- A. *Honeywell v. Hamilton: Expert testimony may be used to evaluate the unforeseeability exception.*

In *Honeywell International v. Hamilton Sundstrand Corp.*,²⁵³ the court accepted expert testimony when determining whether the alleged equivalent was foreseeable to a person of skill in the art at the time of the amendment.²⁵⁴ While the patentee argued that using the inlet guide vane position to distinguish between high flow and low flow to control surge in auxiliary power units of aircrafts was unforeseeable at the time of the amendment, the patentee's expert conceded that controlling surge requires accounting for the position of the inlet guide vane.²⁵⁵ The Federal Circuit affirmed the district court's finding that it was foreseeable to use the position of the inlet guide vane to determine high flow and low flow at the time of the amendment.²⁵⁶

- B. *Research Plastics v. Federal Packaging: The unforeseeability exception does not apply if the amendment demonstrates that the equivalent was foreseeable.*

The patent applicant in *Research Plastics, Inc. v. Federal Packaging Corp.*²⁵⁷ amended its claim, which did not originally specify a location for the ribs, to cover only ribs located at the "rear end" of the tube in order to distinguish prior art that had ribs located on the nozzle end of a caulking tube.²⁵⁸ The Federal Circuit held that the amendment

²⁵¹ See *supra* Part I.C.3.

²⁵² See *supra* Part I.C.3.

²⁵³ 523 F.3d 1304 (Fed. Cir. 2008).

²⁵⁴ *Id.* at 1314.

²⁵⁵ *Id.* at 1313–14.

²⁵⁶ *Id.* at 1314.

²⁵⁷ 421 F.3d 1290 (Fed. Cir. 2005).

²⁵⁸ *Id.* at 1293.

demonstrated that the applicant was able to foresee that the placement of the ribs was a point of differentiation and therefore could not rely on the DOE to cover the accused equivalent, which had ribs located inside of the rear end.²⁵⁹

C. *Schwartz v. Paddock: The unforeseeability exception does not apply if the alleged equivalent was foreseeable in the field of the invention.*

In *Schwartz Pharma, Inc. v. Paddock Laboratories, Inc.*,²⁶⁰ the patentee argued that PHE did not apply because the amendment was unforeseeable.²⁶¹ “Originally, the independent claims recited a ‘metal containing stabilizer’ and ‘an alkali or alkaline earth-metal salt,’ respectively”²⁶² Following an obviousness rejection, “each was amended to instead recite ‘an alkali or alkaline earth metal carbonate.’”²⁶³

On appeal, the patentee did “not seriously dispute [that the accused equivalent, magnesium oxide (MgO),] was known as a stabilizer by those of skill in the art at the time of the amendment.”²⁶⁴ Instead, the patentee asserted “that MgO had to have been known as a stabilizer against the specific degradation pathway of cyclization or for the specific drug category of ACE inhibitors in order to have been foreseeable as an equivalent.”²⁶⁵ The Federal Circuit disagreed.²⁶⁶

The Federal Circuit held that the field of the invention, for foreseeability purposes, is defined by the language of the claim.²⁶⁷ The court determined that the field of invention in that case was pharmaceutical compositions, based on the preamble of the pre-

²⁵⁹ *Id.* at 1299.

²⁶⁰ 504 F.3d 1371 (Fed. Cir. 2007).

²⁶¹ *Id.* at 1374–75.

²⁶² *Id.*

²⁶³ *Id.*

²⁶⁴ *Id.* at 1377.

²⁶⁵ *Id.*

²⁶⁶ *Id.*

²⁶⁷ *Id.* The court applied a similar reasoning in *Duramed Pharmaceuticals, Inc. v. Paddock Labs, Inc.*, where it held the alleged equivalent was known in the field of pharmaceutical compositions at the time of the amendment and was thus foreseeable. 644 F.3d 1376, 1380–81 (Fed. Cir. 2011). The court rejected the patentee’s argument that the alleged equivalent had to have been known specifically “for use with *conjugated estrogens*,” because such characterization of the field of the invention is too restrictive. *Id.* at 1380 (emphasis in original).

amendment claim, and that MgO was a known stabilizer in that field.²⁶⁸ Thus, the court rejected the patentee's argument that the equivalent was unforeseeable.²⁶⁹

D. *Amgen v. Hoechst Marion and Glaxo v. Impax: An alleged equivalent is foreseeable if the patentee knew of the equivalent at the time of the narrowing amendment or if the equivalent was disclosed in the prior art.*

An alleged equivalent is also foreseeable if the patentee knew of the equivalent at the time of the narrowing amendment. In *Amgen Inc. v. Hoechst Marion Roussel, Inc.*,²⁷⁰ the court affirmed the district court's finding that the patentee admitted to knowing about the alleged equivalent when it made the amendment and therefore could not claim that the alleged equivalent was unforeseeable.²⁷¹

In *Glaxo Wellcome, Inc. v. Impax Laboratories, Inc.*,²⁷² the Federal Circuit held that the unforeseeability exception was unavailable when prior art cited during prosecution disclosed the alleged equivalent.²⁷³ Despite evidence in the record showing that hydroxypropylmethyl cellulose (HPMC) was the only sustained release compound that had been tested with the bupropion hydrochloride drug, the alleged equivalent, hydroxypropyl cellulose (HPC), was a known sustained release compound in the field of pharmaceutical formulation.²⁷⁴ Furthermore, the record showed that the patentee disclosed a reference to the USPTO that described the alleged equivalent.²⁷⁵ The court concluded that the alleged equivalent was

²⁶⁸ *Schwarz Pharma*, 504 F.3d at 1377.

²⁶⁹ *Id.* In a similar case, *Cross Medical Products v. Medtronic Sofamar Danek, Inc.*, the Federal Circuit held that the alleged equivalent was foreseeable at the time of the amendment because it was "an old and well known fundamental of basic machining." 480 F.3d 1335, 1343 (Fed. Cir. 2007).

²⁷⁰ 457 F.3d 1293 (Fed. Cir. 2006).

²⁷¹ *Id.* at 1313.

²⁷² 356 F.3d 1348 (Fed. Cir. 2004).

²⁷³ *Id.* at 1355; *see also* *Pioneer Magnetics, Inc. v. Micro Linear Corp.*, 330 F.3d 1352, 1357 (Fed. Cir. 2003) (holding that the alleged equivalent was foreseeable because it was contained in the prior art that the patentee sought to avoid through the narrowing amendment); *Okor v. Atari Games Corp.*, 76 Fed. App'x 327, 332 (Fed. Cir. 2003) (The patentee expressly discussed the alleged equivalent as prior art in his comments during prosecution.).

²⁷⁴ *Glaxo Wellcome*, 356 F.3d at 1355.

²⁷⁵ *Id.*

therefore foreseeable to a person or ordinary skill in the art at the time of the amendment.²⁷⁶

On the other hand, in a companion case, *SmithKline Beecham Corp. v. Excel Pharmaceuticals, Inc.*,²⁷⁷ the Federal Circuit remanded the case for a determination of whether polyvinyl alcohol (PVA) was a known sustained release agent or whether it was an unforeseeable equivalent of HPMC.²⁷⁸ As the record was undeveloped, the Federal Circuit was unable to determine whether PVA qualified as later-developed technology, rendering it “a [sic] undeniable ground for unforeseeability.”²⁷⁹

- E. *Mycogen v. Monsanto and Talbert v. Unocal: If the claim originally included a range and then was narrowed, the original range was foreseeable.*

When a patent applicant has drafted a claim that covers a range of values and later narrowed it for reasons related to patentability, the Federal Circuit has held that the patentee cannot argue that an accused equivalent, which was captured by the broader claim but later falls outside the narrowed range of values, is unforeseeable. In *Mycogen Plant Science, Inc. v. Monsanto Co.*,²⁸⁰ the court held that the patentee could not claim that the accused equivalent, a gene that is only seventy-eight percent homologous to the claimed gene sequence, was unforeseeable, because the applicant canceled a claim that originally covered sequences that were eighty-five percent homologous.²⁸¹ The patentee had to narrow its claims to the specific gene sequence that was ultimately allowed by the examiner.²⁸² Therefore, the court concluded that the patent applicant was able to foresee the possibility of a gene with less homology to the claimed sequence.²⁸³

Likewise, in *Talbert Fuel Systems Patents Co. v. Unocal Corp.*,²⁸⁴ the Federal Circuit held that the patentee could not “credibly argue[.]” that it could not foresee fuels with a boiling point range higher

²⁷⁶ *Id.* at 1355–56.

²⁷⁷ 356 F.3d 1357 (Fed. Cir. 2004).

²⁷⁸ *Id.* at 1364–65.

²⁷⁹ *Id.*

²⁸⁰ 91 Fed. App'x. 666 (Fed. Cir. 2004).

²⁸¹ *Id.* at 668.

²⁸² *Id.* at 667.

²⁸³ *Id.* at 668.

²⁸⁴ 347 F.3d 1355 (Fed. Cir. 2003).

than that ultimately claimed, because the patentee had amended its claim to distinguish prior art that contained higher boiling point fuels.²⁸⁵

F. *Ranbaxy v. Apotex: It is irrelevant if the patentee did not foresee the surrender.*

The patentee in *Ranbaxy Pharmaceuticals, Inc. v. Apotex, Inc.*²⁸⁶ attempted to argue that it was not foreseeable that amending its claim to cover only formic acid would result in surrender of acetic acid, which was an “obvious structural equivalent (homolog).”²⁸⁷ The court clarified that “foreseeability relates to the equivalent, not to whether an amendment may result in prosecution history estoppel.”²⁸⁸ The court held that by arguing that acetic acid, the alleged equivalent, is a known homolog to the claimed compound, formic acid, the patentee demonstrated that it would have been foreseeable to include the equivalent when drafting the claim.²⁸⁹

G. *Discussion.*

Because the Federal Circuit has never applied the foreseeability exception, it is difficult to pinpoint the factual circumstances that would merit the use of this exception. It is clear that in determining whether an alleged equivalent was foreseeable, it is appropriate to rely on extrinsic evidence such as expert testimony. It is also true that if the amendment was known by the patentee, or disclosed in the prior art, or a range in the original claims, the foreseeability exception does not apply. But when the exception would apply remains unclear. By definition, a claim must literally include the alleged equivalent and then be narrowed to exclude the equivalent for the question of PHE and the exceptions to be in consideration. In any situation where the alleged equivalent is explicitly removed—such as a range, or specific discussion of the equivalent—it is, by definition foreseeable. Likewise, an alleged equivalent in the prior art is also foreseeable.

²⁸⁵ *Id.* at 1359–60.

²⁸⁶ 350 F.3d 1235 (Fed. Cir. 2003).

²⁸⁷ *Id.* at 1241.

²⁸⁸ *Id.*

²⁸⁹ *Id.*

IV. “SOME OTHER REASON” EXCEPTION TO PROSECUTION HISTORY ESTOPPEL.

The Supreme Court in *Festo VIII* held that a patentee could overcome the presumption that it surrendered the accused equivalent by showing that there is “some other reason” that it could not have been expected to claim the equivalent.²⁹⁰ In *Festo X*, the Federal Circuit held that, as with the tangential exception, the evidence available to support the “some other reason” exception should be limited to the prosecution history, “when at all possible.”²⁹¹ Specifically, the court explained that “if the alleged equivalent is in the [cited] prior art, there can be no other reason the patentee could not have described the substitute in question.”²⁹² The court expressly declined to reach the question of what evidence outside of the prosecution history, if any, should be considered to determine whether the patentee has rebutted the presumption of PHE.²⁹³

There has not been a single case where the Federal Circuit has held that the “some other reason” exception applies to rebut the *Festo* presumption. In cases since *Festo* where the Federal Circuit has considered and rejected the “some other reason” exception, the court continued to apply its holding that a patentee could not argue that there was “some other reason” that it could not have been expected to describe an alleged equivalent if the equivalent is found in the prior art.

- A. *Pioneer Magnetics v. Micro Linear and Okor v. Atari: The “some other reason” exception does not apply if the alleged equivalent was in the cited prior art.*

In *Pioneer Magnetics Inc. v. Micro Linear Corp.*,²⁹⁴ the Federal Circuit held that “there can be no other reason the patentee could not have described the substituted in question” because the alleged equivalent was in the prior art cited against the patentee during prosecution.²⁹⁵ Likewise, because the patentee in *Okor v. Atari Games*

²⁹⁰ *Festo VIII*, 535 U.S. 722, 740–41 (2002).

²⁹¹ *Festo X*, 344 F.3d 1359, 1370 (Fed. Cir. 2003).

²⁹² *Id.* (internal citations omitted) (citing *Pioneer Magnetics, Inc. v. Micro Linear Corp.*, 330 F.3d 1352 (Fed. Cir. 2003)).

²⁹³ *Id.*

²⁹⁴ 330 F.3d 1352 (Fed. Cir. 2003).

²⁹⁵ *Id.* at 1357.

*Corp.*²⁹⁶ distinguished its invention from the prior art, which contained the alleged equivalent, it could not point to some other reason that it could not have drafted its claim to cover the equivalent.²⁹⁷

B. *Amgen v. Hoechst: The “some other reason” exception does not apply if the patentee was aware of the alleged equivalent.*

The Federal Circuit has also held that the patentee could not rely on the “some other reason” exception if the patentee knew about the alleged equivalent at the time of the amendment. The court held that the patentee in *Amgen Inc. v. Hoechst Marion Roussel, Inc.*²⁹⁸ could not argue that there was some other reason it could not have been expected to draft its claim to cover the alleged equivalent, a 165-amino acid erythropoietin (EPO) sequence, because the patentee submitted information to the USPTO about the 165-amino acid sequence but chose only to claim a 166-amino acid EPO sequence.²⁹⁹ The district court had found that the patentee succeeded in demonstrating that there was “some other reason” it could not have claimed the accused equivalent, because a person of ordinary skill in the art would have interpreted the amended claim to cover the 165-amino acid sequence.³⁰⁰

The Federal Circuit reversed, holding that “whether the patentee, the examiner, or a person of skill in the art may have thought the claims encompassed EPO with 165 amino acids does not excuse the patentee’s failure to claim the equivalent.”³⁰¹ Because the patentee knew about the alleged equivalent, and because there was no linguistic barrier to describing the equivalent, the patentee could not rely on the “some other reason” exception to PHE.

C. *Festo X: The “some other reason” exception does not apply if the claim as originally drafted included the alleged equivalent.*

²⁹⁶ 76 Fed. App’x. 327 (Fed. Cir. 2003).

²⁹⁷ *Id.* at 332–33.

²⁹⁸ 457 F.3d 1293 (Fed. Cir. 2006).

²⁹⁹ *Id.* at 1315.

³⁰⁰ *Id.* at 1315–16.

³⁰¹ *Id.* at 1316.

From the *Festo X* decision, it appears that the “some other reason” exception does not apply when the original claim literally encompassed the accused equivalent, because the patentee cannot argue that he is incapable of drafting a claim to cover the equivalent.³⁰² In addition, the court’s reasoning that the patentee could have claimed a nonmagnetizable sleeve as easily as it claimed a magnetizable sleeve suggests that a patentee is bound by the level of specificity that it chooses to describe its invention.³⁰³

In *Research Plastics*, the Federal Circuit similarly held that the patentee could have described the alleged equivalent, because it amended its original claim, which was broad enough to cover the equivalent, to describe only ribs located at the rear end of the caulking tube, when it could have instead described the ribs as being located anywhere along the tube, as long as they were not adjacent to the nozzle.³⁰⁴

D. Discussion.

Like the unforeseeability exception, it is unclear when the “some other reason” exception to prosecution estoppel could apply because the Federal Circuit has never found the exception to apply. Like the unforeseeability exception, the “some other reason” exception does not apply if the alleged equivalent was in the prior art, if the patentee was aware of the equivalent, or if the original claim language explicitly included the alleged equivalent. It is also unclear when and to what extent the court will allow extrinsic evidence to be considered in evaluating the “some other reason” exception.

V. TABLE OF RELEVANT DECISIONS CONSIDERING THE TANGENTIAL EXCEPTION, INCLUDING AUTHORIZING JUDGE AND PANEL.

There are few cases that substantively consider the narrow exceptions to PHE, and even fewer that find the exceptions apply. Indeed, the only exception the court has ever found applied was the

³⁰² *Festo X*, 344 F.3d 1359, 1373 (Fed. Cir. 2003). The Federal Circuit held that the “sealing rings” limitation in the original claim in the Stoll patent was broad enough to cover the accused equivalent, a two-way sealing ring. *Id.* at 1373–74.

³⁰³ *Id.* at 1372.

³⁰⁴ *Research Plastics, Inc. v. Fed. Packaging Corp.*, 421 F.3d 1290, 1298 (Fed. Cir. 2005).

tangential exception. The court only seriously considered the tangential exception in twenty-eight cases, and the tangential exception was only found to apply in five of them.

While there are not enough cases to make a confident prediction by a judge, a review of the cases where the court has seriously considered the tangential exception suggests that some judges may be more receptive to the exceptions than others. For example, former Chief Judge Rader considered eight cases where the tangential exception was seriously in dispute. In each case—whether he was the authoring judge or not—the court found the exception did not apply. Likewise, Judge Newman has been on nine panels where the tangential exception was considered. In two of those cases, the court found the tangential exception applied, and in two more she dissented and suggested that it should apply. This could have nothing to do with the judges' views on the exceptions and everything to do with the facts of the specific cases (although Judge Newman's two dissents occurred in cases where Judge Rader was in the majority), but it could indicate some judges view the exceptions more favorably than others.

With the caveat that the case sample size is very small, and that the judges' decisions could have little to do with their viewpoints on the exception and more to do with the specific facts of the case, these are the judges who appear less receptive to the tangential exception (and potentially less receptive to the other exceptions as well):

- Retired Judge Rader (on eight panels finding no tangential exception, authored three; never found tangential exception applied)
- Retired Judge Gajarsa (on seven panels finding no tangential exception, authored three; never found tangential exception applied)
- Senior Judge Clevenger (on six panels finding no tangential exception; never found tangential exception applied)
- Judge Dyk (on four panels finding no tangential exception; never found tangential exception applied)

With the same caveat, these are the judges who appear more receptive to the tangential exception (and potentially more receptive to the other exceptions as well):

103 Exceptions to Prosecution History Estoppel [7:57 2015]

- Judge Newman (considered tangential exception in seven cases; on two panels finding tangential exception applied, authored one; dissented on two cases that tangential exception should apply)
- Judge Lourie (considered tangential exception in seven cases; on three panels finding tangential exception applied, authored two of them)
- Senior Judge Mayer (considered tangential exception in four cases; on two panels finding tangential exception applied; dissented on one case that tangential exception should apply)

The full table showing the panel compositions of the relevant cases, including authoring judge, follows:

Judge	<i>Found tangential exception applied</i>		
	Authored opinion finding tangential exception	On panel finding tangential exception	Dissent (i.e. would find not tangential)
Prost	23	11	16
Newman	24	11	
Lourie	11, 16	24	
Dyk			23***
Moore			
Senior			
Bryson		23	
Clevenger			
Linn		24	
Plager			
Mayer		5, 16	
Schall	5		
Retired			
Rader			
Michel		5	
Garjasa			
Friedman			

	<i>Found tangential exception did not apply</i>			<i>Festo VII</i>		
Judge	Authored opinion finding no tangential exception	On panel/majority finding no tangential exception	Dissent (i.e. would find tangential)	Per curiam decision finding no tangential exception	Absolute Bar	Not Absolute Bar
Prost	17, 18, 20	6, 15, F		13		
Newman	3	7, 9	19, F **	1, 2		X
Lourie	14, F	18, 20		1	X	
Dyk		10, 15, 19, F			X	
Moore	25	14				
Senior						
Bryson		8, 9, 21, F		4	X	
Clevenger		7, 12, 18, 25, F		4	X	
Linn	8, 15, 22	20, F		4		X
Plager	10	F			X	
Mayer		21	F **	1	X	
Schall	12	6, 17, F		13	X	
Retired						
Rader	6, 13*, 19	3, 17, 22, 25, F		2		X
Michel		3, 12, 14, F		2		X
Garjasa	7, 9, 21	8, 10, F			X	
Friedman		22				

*wrote separately to concur with per curium opinion of no tangential

**would remand to the district court for factfinding

***would find claim not literally infringed or infringed under doe b/c of claim construction, did not opine separately on tangential

1. Pioneer Magnetics, Inc. v. Micro Linear Corp., 330 F.3d 1352 (Fed. Cir. 2003).

2. *Okor v. Atari Games Corp.*, 76 Fed. Appx. 327 (Fed. Cir. 2003).
3. *Talbert Fuel Sys. Patents Co. v. Unocal Corp.*, 347 F.3d 1355 (Fed. Cir. 2003).
4. *Mycogen Plant Sci., Inc. v. Monsanto Co.*, 91 Fed. Appx. 666 (Fed. Cir. 2004).
5. *Insituform Techs., Inc. v. Cat Contr., Inc.*, 385 F.3d 1360 (Fed. Cir. 2004).
6. *Business Objects, S.A. v. MicroStrategy, Inc.*, 393 F.3d 1366 (Fed. Cir. 2005).
7. *Chimie v. PPG Indus.*, 402 F.3d 1371 (Fed. Cir. 2005).
8. *Terlep v. Brinkmann Corp.*, 418 F.3d 1379 (Fed. Cir. 2005).
9. *Research Plastics, Inc. v. Fed. Packaging Corp.*, 421 F.3d 1290 (Fed. Cir. 2005).
10. *Biagro Western Sales, Inc. v. Grow More, Inc.*, 423 F.3d 1296 (Fed. Cir. 2005).
11. *Primos, Inc. v. Hunter's Specialties, Inc.*, 451 F.3d 841 (Fed. Cir. 2006).
12. *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 457 F.3d 1293 (Fed. Cir. 2006).
13. *Cross Med. Prods. v. Medtronic Sofamor Danek, Inc.*, 480 F.3d 1335 (Fed. Cir. 2007).
14. *Schwarz Pharma, Inc. v. Paddock Labs., Inc.*, 504 F.3d 1371 (Fed. Cir. 2007).
15. *Int'l Rectifier Corp. v. IXYS Corp.*, 515 F.3d 1353 (Fed. Cir. 2008).
16. *Regents of the Univ. of Cal. v. DakoCytomation Cal., Inc.*, 517 F.3d 1364 (Fed. Cir. 2008).
17. *A G Design & Assocs. LLC v. Trainman Lantern Co.*, 271 Fed. Appx. 995 (Fed. Cir. 2008).
18. *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351 (Fed. Cir. 2008).
19. *Honeywell Int'l, Inc. v. Hamilton Sundstrand Corp.*, 523 F.3d 1304 (Fed. Cir. 2008).
20. *Lucent Techs., Inc. v. Gateway, Inc.*, 525 F.3d 1200 (Fed. Cir. 2008).
21. *Voda v. Cordis Corp.*, 536 F.3d 1311 (Fed. Cir. 2008).
22. *Felix v. Am. Honda Motor Co.*, 562 F.3d 1167 (Fed. Cir. 2009).
23. *Intervet Inc. v. Merial Ltd.*, 617 F.3d 1282 (Fed. Cir. 2010).

24. Funai Elec. Co., Ltd. v. Daewoo Elecs. Corp., 616 F.3d 1357 (Fed. Cir. 2010).
25. Integrated Tech. Corp. v. Rudolph Techs., Inc., 734 F.3d 1352 (Fed. Cir. 2013).
- F. Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 344 F.3d 1359 (Fed. Cir. 2003) (en banc) (“Festo X”).
- Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 304 F.3d 1289 (Fed. Cir. 2000) (en banc) (“Festo VII”).

VI. SUGGESTED APPLICATIONS OF THE THREE EXCEPTIONS TO PROSECUTION HISTORY ESTOPPEL.

The Supreme Court set out a series of steps for determining whether PHE applies. The first step is to determine whether the amendment is narrowing. If the answer is “no,” there is no surrender of subject matter. If the answer is yes, the next step is to determine whether the reason for that amendment was substantially related to patentability. If the answer is “no,” there is no surrender of subject matter. If the answer is “yes,” there is a presumption that the patentee has surrendered all territory between the original claim and the amended claim. The patentee may then attempt to rebut the presumption with the *Festo* exceptions.

A. *Tangential Exception.*

The Supreme Court’s statement of the law for the tangential exception is that a patentee does not surrender an equivalent when amending a claim for patentability reasons if “the *rationale* underlying the amendment [] bear[s] no more than a tangential relation to the *equivalent in question*.”³⁰⁵ The Federal Circuit has interpreted this to mean “the reason for the narrowing amendment was peripheral, or not directly relevant, to the alleged equivalent.”³⁰⁶ The Federal Circuit has made clear that where an amendment was made to overcome prior art that contains the accused equivalent, the reasoning for the amendment is directly related to rather than tangential to the equivalent.³⁰⁷

³⁰⁵ *Festo VIII*, 535 U.S. 722, 740 (2002) (emphasis added).

³⁰⁶ *Festo X*, 344 F.3d at 1369.

³⁰⁷ See *supra* Part I.C.3.

This does not mean, however, that “the equivalents not within the prior art must be tangential to the amendment.”³⁰⁸ Indeed, the Federal Circuit has declined to apply the tangential exception to PHE in cases that where the patentees made narrowing amendments that were potentially unnecessary to overcome the prior art.³⁰⁹ In such cases, the Federal Circuit held that, while the patentees may not have been required to make the amendments they did, because the prosecution history was either silent or not “objectively apparent” as to the reasons for the amendments, the patentees were bound by their choices of amendments.

From the Federal Circuit’s various post-*Festo* cases, it appears in a patentee’s best interest to ensure that any narrowing amendment made to overcome prior art during patent prosecution is accompanied by a clear reason for the amendment. If there are potentially multiple reasons for an amendment, the patentee should clarify which reason is associated with distinguishing the invention from the prior art. A court would then be able to rely on this stated reason to determine whether the reason is directly related to or merely peripheral to the alleged equivalent. Patentees should also be wary of surrendering more territory than necessary to overcome prior art, as it will likely be foreclosed from recapturing the surrendered territory under the DOE.

In addition, the court’s particular viewpoints on the appropriateness of the tangential exception may have some variation depending on the panel. From the few available decisions where the Federal Circuit has applied the tangential exception to PHE, some judges seemed more open to applying the exception than others.³¹⁰

B. *Unforeseeability Exception.*

In the twelve years since the Supreme Court articulated the unforeseeability exception to PHE in its *Festo VIII* decision, the Federal Circuit has yet to apply the exception. It is therefore unclear when the unforeseeability exception would apply to rebut the presumption that the patent applicant surrendered the accused equivalent by making a narrowing claim amendment. The Federal Circuit’s decisions make clear that the exception *does not* apply where

³⁰⁸ *Chimie v. PPG Indus.*, 402 F.3d 1371, 1383 (Fed. Cir. 2005).

³⁰⁹ *See Integrated Tech. Corp. v. Rudolph Techs., Inc.*, 734 F.3d 1352 (Fed. Cir. 2013);

Felix v. Am. Honda Motor Co., 562 F.3d 1167 (Fed. Cir. 2009).

³¹⁰ *See supra* Part V.

the equivalent is found in the cited prior art.³¹¹ The Court in *Festo X*, however, did offer some guidance as to when the exception may apply: “Usually, if the alleged equivalent represents later-developed technology . . . or technology that was not known in the relevant art, then it would not have been foreseeable.”³¹² The court therefore views after-arising technology and existing technology in other fields of invention potential unforeseeable equivalents that a patent applicant does not surrender when making narrowing amendments.³¹³

The unforeseeability exception may allow a patentee to rebut the presumption of PHE and assert infringement by equivalents over after-arising technologies that are marked improvements, and perhaps separately patentable, over the patented invention. Such a rule may lead to the perverse and undesirable consequence of allowing a patentee to expand its patent protection to cover after-arising, innovative technology by merely claiming that the equivalent was unforeseeable at the time of the amendment.

On the other hand, even if the court applies the unforeseeability exception and the patentee rebuts the presumption of PHE, that may not necessarily be the end of the inquiry. With the ability to assert infringement under the DOE, the patentee would still have to show that the accused equivalent is in fact an equivalent of the claimed element, i.e. it performs the same function in the same way with the same results or that any changes are insubstantial. As the Supreme Court stated in *Graver Tank*, the inquiry is whether, “the substitution [of the equivalent], under the circumstances of this case, and in view of the technology and the prior art, is a change of such substance as to make the doctrine of equivalents inapplicable.”³¹⁴ The DOE is not without boundaries, as the patentee still has the burden of proving that the accused infringer only made colorable changes to the claimed invention.

C. “Some Other Reason” Exception.

³¹¹ See *supra* Part III.

³¹² *Festo X*, 344 F.3d 1359, 1369 (Fed. Cir. 2003).

³¹³ In *Festo VII*, Judge Rader noted the harshness of the complete bar as applied to after-arising technology, because a patentee would be estopped from asserting the DOE to capture after-arising technology, even if he could not have known about the technology and therefore could not have surrendered it when narrowing his claim. 234 F.3d 558, 619–20 (Fed. Cir. 2000) (Rader, J., dissenting).

³¹⁴ *Graver Tank & Mfg. v. Linde Air Products Co.*, 339 U.S. 605, 610 (1950).

As with the unforeseeability exception, the Federal Circuit has yet to apply to “some other reason” exception created by the Supreme Court in *Festo VIII*. The Federal Circuit has made clear that the “some other reason” exception is not available where the claim at issue, as originally drafted, literally covers the accused equivalent.³¹⁵ The exception is also not available if the accused equivalent is found in the prior art.³¹⁶ From the post-*Festo* decisions described in Part III, it appears that the “some other reason” exception will be rarely, if ever, applied. While the court may be amenable to applying the exception if there is a linguistic barrier that prevents the patent applicant from being able to describe the accused equivalent, it is unclear what the court will consider to be a sufficient linguistic barrier. This exception, however, remains available as a “catch-all” exception to PHE.

VII. CONCLUSION.

The Federal Circuit’s post-*Festo* cases in the twelve years since the decision confirm that the three potential exceptions to PHE are indeed narrowly applied. The cases do, however, provide guidance for a number of common factual scenarios in whether the exceptions will apply.

³¹⁵ See *supra* Part IV.

³¹⁶ See *supra* Part IV.