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Exportability's Effect on Process Patent Enforcement: Why § 271(f) Export Restrictions Do Not Apply to Intangible Process Claims

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EXPORTABILITY'S EFFECT ON PROCESS PATENT
ENFORCEMENT: WHY § 271(F) EXPORT RESTRICTIONS DO
NOT APPLY TO INTANGIBLE PROCESS CLAIMS

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ABSTRACT

*Congress enacted 35 U.S.C. § 271(f) to broaden U.S. patent protection and prohibit shipping patented devices in smaller components for assembly overseas. Section 271(f) creates an infringement cause of action for sending components outside the United States for assembly. Whether § 271(f)—which clearly applies to physical things—also applies to process claims has been hotly debated. In *Cardiac Pacemakers, Inc. v. St. Jude Med Inc.*, the United States Court of Appeals for the Federal Circuit held that § 271(f) does not apply to process claims because a component of a process claim is an intangible step that cannot be physically supplied. This Article surveys the origins of 35 U.S.C. § 271(f), examines how courts applied the statute before *Cardiac Pacemakers*, analyzes the Federal Circuit's reasoning in *Cardiac Pacemakers*, and discusses implications for those with process claims. Although § 271(f) offers limited protection against acts giving rise to foreign commercial activity, *Cardiac Pacemakers* suggests patent attorneys should consider possible claims for tangible combinations elements occurring during performance of intangible processes.*

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TABLE OF CONTENTS

Introduction.....234
I. Origin of the Export Restriction in 35 U.S.C. § 271(f)236
II. Export Restriction Applies to Process Claims
before *Cardiac Pacemakers*238
III. The *Cardiac Pacemakers* Decision and Its Reasoning.....239
IV. What Are the Components of a Process Claim?.....241
V. A Pragmatic Interpretation: Cannot Be Supplied,
Cannot Apply.....242
VI. Presumption against Extraterritoriality and Other
Possible Factors243
VII. Implications of the *Cardiac Pacemakers* Decision244
Conclusion245
Practice Pointers.....245

INTRODUCTION

Direct patent infringement occurs when the actions or products of an unlicensed party meet all the limitations of a patent claim, while inducement and contributory infringement occur when a party intentionally encourages or causes a third-party to infringe.¹ Inducement infringement occurs when a party intentionally encourages or otherwise causes a third party to infringe a patent.² Contributory infringement occurs when a party knowingly provides a material component within the United States that will be used in something covered by a patent.³

To provide stronger protection of products covered by U.S. patents, Congress enacted § 271(f) of the Patent Act, which expanded the definition of patent infringement to include exporting a substantial portion of the components of a patented invention “in

¹ Patent law regulates two types of infringement: direct infringement and indirect infringement. *See* 35 U.S.C. § 271(a) (2006). Indirect infringement includes contributory infringement, *See* 35 U.S.C. § 271(c), (f), (g). Indirect infringement also includes inducement infringement. 35 U.S.C. § 271(b).

² 35 U.S.C. § 271(b).

³ 35 U.S.C. § 271(c).

such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent . . .”⁴ The Act was clearly designed to prevent U.S. manufacturers from circumventing patent protections by shipping components out of the country for overseas assembly.

The statutory language does not, however, state whether § 271(f) also applies to intangible process claims. (A process claim, also known as a method patent, protects the series of steps taken to manufacture something.) Instead, the section applies to a “patented invention” and does not explicitly refer to more specific terms like “apparatus” or “process.”⁵ U.S. patent law does protect both apparatuses and processes; both could arguably be considered a “patented invention.”⁶ On the other hand, the statute refers to “components” and it has been asserted this signals the legislature’s intent to exclude intangible methods. Such statutory ambiguities have been a source of longstanding confusion.⁷

Cardiac Pacemakers, Inc. v. St. Jude Med Inc.,⁸ significantly changes the law because the United States Court of Appeals for the Federal Circuit (“Federal Circuit”) overruled its 2005 *Union Carbide Chemicals v. Shell Oil*⁹ decision and held that the export

⁴ 35 U.S.C. § 271(f) (“Whoever . . . supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer . . .”).

⁵ Instead of using the specific terms like “apparatus claims” or “process claims,” 35 U.S.C. § 271(f) uses the term “a patented invention.”

⁶ 35 U.S.C. § 101 (2006) (“Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor . . .”).

⁷ See, e.g., Alejandro Valencia, *Inequitable Results in Transnational Patent Infringement Liability: Closing the Method Loophole*, 2008 BOS. COLL. INTELL. PROP. & TECH. F. 032501 (2008).

⁸ *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 576 F.3d 1348 (Fed. Cir. 2009).

⁹ *Union Carbide Chemicals & Plastics Tech. Corp. v. Shell Oil Co.*, 425 F.3d 1366 (Fed. Cir. 2005).

restriction in § 271(f) does not apply to process claims.¹⁰ In reaching this decision, the Federal Circuit mainly relied on the United States Supreme Court's 2007 decision in *Microsoft Corp. v. AT&T Corp.* (“*AT&T SC*”).¹¹ *AT&T SC* narrowly interpreted the export regulation and held master disks were not a § 271(f) component when sent abroad to be copied and then installed to form a would-be infringing system.¹² The Court had based its decision on the extraterritorial theory:

Recognizing that § 271(f) is an exception to the general rule that our patent law does not apply extraterritorially, we resist giving the language in which Congress cast § 271(f) an expansive interpretation.¹³

This Article first discusses the origins of § 271(f) and how courts prior to *Cardiac Pacemakers* applied the statute. This Article further analyzes the *Cardiac Pacemakers* decision and the Federal Circuit's reasoning, and then discusses the possible implications of the *Cardiac Pacemakers* decision.

I. ORIGIN OF THE EXPORT RESTRICTION IN 35 U.S.C. § 271(F)

U.S. patent law protects both tangible apparatuses and intangible processes.¹⁴ A process claim is a patent claim whose subject matter is a process or a method.¹⁵ Patent applicants can seek process claim protection on any new method for achieving certain useful results or any new way of utilizing existing substances. The statutory language used in § 271(f) to protect “any component of a patented invention” does not clearly indicate whether this section applies to both apparatus and process claims.

¹⁰ *Id.*

¹¹ *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437 (2007).

¹² *Id.* at 449 n. 9.

¹³ *Id.* at 442.

¹⁴ 35 U.S.C. § 101.

¹⁵ An example of a process claim would be a method for creating a bicycle break system comprising of: mounting two wheels on a framework of a bike; connecting the two wheels to a breaking device; and configuration of the breaking device according to a predetermined parameter.

An apparatus claim has tangible elements as its components, while a process claim has intangible steps as its components. This difference between apparatus and process claims may cause distinct results when courts interpret or apply patent law to adjudicate a patent infringement case.

Prior to the enactment of § 271(f), U.S. law already recognized causes of action for contributory patent infringement¹⁶ and inducement to infringe,¹⁷ both of which are restricted to supplying tangible apparatuses and intangible processes within the United States. Section 271(f) partially expands these provisions to prohibit supplying a patented invention's components to a foreign destination, in or from the United States.¹⁸ Section 271(f) was passed in response to a Supreme Court decision, *Deepsouth Packing Co. v. Laitram Corp.*,¹⁹ which held it was not infringement to assemble a product abroad even when the unassembled parts were intentionally shipped from the United States. In *Deepsouth Packing*, the accused infringer, who shipped unassembled parts of a patented shrimp-deveining machine abroad, was not liable for patent infringement because U.S. patent law could not regulate the infringing conduct abroad.²⁰ The Supreme Court indicated that the legislative branch should resolve the issue.²¹

In response to *Deepsouth*, Congress enacted § 271(f) to bar the exportation of components from the U.S. to overseas locations with the intent that they be assembled abroad.²² After the statute was enacted, several issues regarding interpretation have been raised. One issue is whether the scope of the "patented invention"

¹⁶ 35 U.S.C. § 271(c).

¹⁷ 35 U.S.C. § 271(b).

¹⁸ 35 U.S.C. § 271(f).

¹⁹ 406 U.S. 518 (1972).

²⁰ *Id.* at 527.

²¹ *Id.* at 532 (holding that absent a clear congressional indication of intent, courts had no warrant to stop the manufacture and sale of the parts of patented inventions for assembly and use abroad).

²² See e.g. S. Rep. No. 98-663, at 2 (1984) (Conf. Rep.) (describing § 271(f) as a response to the "*Deepsouth* decision which interpreted the patent law not to make it infringement where the final assembly and sale is abroad"); see also AT&T SC, 550 U.S., at 444, n. 3 (stating that § 271(f) was enacted by Congress focusing its attention on *Deepsouth*).

also includes intangible process claims or is merely limited to tangible apparatuses. Another issue is whether the components of intangible process claims can be “supplied” abroad.

II. EXPORT RESTRICTION APPLIES TO PROCESS CLAIMS BEFORE *CARDIAC PACEMAKERS*

In 2005, the Federal Circuit interpreted § 271(f) in three different decisions. First, in *Eolas Technologies Inc. v. Microsoft Corp.*,²³ the Federal Circuit held that Microsoft was liable under § 271(f) because the software code included on Microsoft’s master disks was a “component” of a patented invention under § 271(f).²⁴ Shortly thereafter, the Federal Circuit decided a similar issue in *AT&T FC*,²⁵ holding intangible software could be “supplied” under § 271(f) when a single copy was sent abroad with the intent that it be replicated.²⁶ Then, in *NTP, Inc. v. Research in Motion Ltd.*,²⁷ the Federal Circuit held that while it is difficult to conceive of how one might supply the steps of a patented process, the supply of BlackBerry devices to customers in the U. S. did not constitute the supply step required by § 271(f).²⁸

In 2006, the Federal Circuit explicitly held that § 271(f) applied to process claims in *Union Carbide Chemicals*.²⁹ The Federal Circuit distinguished *NTP* by noting that the catalyst at issue was directly supplied to foreign affiliates whereas the infringing device in *NTP* was sold domestically and then used in a foreign

²³ *Eolas Technologies, Inc. v. Microsoft Corp.*, 399 F.3d 1325 (Fed. Cir. 2005).

²⁴ *Id.* at 1339 (holding that the “computer readable code claimed in claim 6,” the product claim, was “apart or component of that invention”).

²⁵ *AT&T Corp. v. Microsoft Corp.*, 414 F.3d 1366 (Fed. Cir. 2005).

²⁶ *Id.* at 1370.

²⁷ *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282 (Fed. Cir. 2005).

²⁸ *Id.* at 1322.

²⁹ *Union Carbide Chemicals & Plastics Tech. Corp. v. Shell Oil Co.*, 425 F.3d 1366 (Fed. Cir. 2005) (holding § 271(f) applicable to the process claims when a catalyst that was necessary to perform a patented process for producing ethylene oxide was exported abroad because the court considered the catalyst to be a “component” under in § 271(f)).

country.³⁰ Thus, the Federal Circuit held that the exportation of catalysts may result in liability under § 271(f).³¹ It then held that § 271(f) makes no distinction between patentable process inventions and other forms of patentable inventions.³²

The Supreme Court's 2007 decision, *AT&T SC*, however caused dramatic changes in the Federal Circuit's point of view regarding whether § 271(f) applies to process claims.³³ *AT&T SC* sent a clear message that the territorial limits of patents should not be extended, and thus provided certain bases for *Cardiac Pacemakers* to overrule *Union Carbide Chemicals* and hold § 271(f) does not apply to devices supplied outside the U.S. that may be used to perform a patented process.³⁴

AT&T SC held that software uncoupled from a medium cannot be considered as a combinable component in § 271(f).³⁵ In other words, only a copy of Windows (the operating system)—not Windows in the abstract—could qualify as a “component” under § 271(f).³⁶ *AT&T SC* also held that no infringement occurs when a patented product is made and sold in another country and § 271(f) is only an exception.³⁷ Without a clear Congressional indication of intent, the courts had no authority to stop the manufacture and sale of the parts of patented inventions for assembly and use abroad.³⁸

III. THE *CARDIAC PACEMAKERS* DECISION AND ITS REASONING

In *Cardiac Pacemakers*, the Federal Circuit revisited the issue

³⁰ *Id.* at 1380 (reasoning that if the shipment of master disks by copies in *Eolas Technologies* could apply § 271(f), the chemical catalyst would apply more strongly because the catalyst was directly shipped).

³¹ *Id.* at 1380.

³² *Id.* at 1379.

³³ *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437 (2007) (holding Microsoft did not supply combinable components of a patented invention when it shipped master disks abroad to be copied and therefore Microsoft was not liable for loading Windows software abroad that was copied from a master disk dispatched from the United States).

³⁴ *Id.* at 454-56.

³⁵ *Id.* at 450.

³⁶ *Id.* at 451-52.

³⁷ *Id.* at 441.

³⁸ *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518 (U.S. 1972).

of whether § 271(f) should apply to process patents. The patent in dispute³⁹ covered a process whereby implantable cardioverter-defibrillators (“ICDs”) executed appropriate heart stimulation for an identified heart condition.⁴⁰ The Plaintiffs-Appellants owned various patents relating to cardiac defibrillators and had sued Defendants-Cross Appellants⁴¹ for patent infringement, alleging the ICDs sold by defendants infringed plaintiffs’ process claim.⁴²

The United States District Court for the Southern District of Indiana ruled § 271(f) was applicable to this case.⁴³ Relying on *Eolas Technologies*, the District Court held that every component of every form of invention deserves the protection of § 271(f). Namely, “components” and “patented inventions” under § 271(f) are not limited to physical machines.⁴⁴ But the Federal Circuit reversed the district court’s decision and held that practicing the process claim outside the United States did not infringe under § 271(f).⁴⁵

The *Cardiac Pacemakers* court acknowledged receiving a number of amicus curiae briefs on the scope of § 271(f) protection and expressly showed appreciation of these contributions in a

³⁹ U.S. Patent No. 4,407,288 (issued Oct. 4, 1983).

⁴⁰ *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 576 F.3d 1348, 1352 (Fed. Cir. 2009).

⁴¹ Defendants-Cross Appellants in the *Cardiac Pacemakers* case include St. Jude Medical, Inc. and Pacesetter, Inc. (collectively referred “St. Jude entities”).

⁴² The Claim 4 of the ’288 patent, the only claim at issue on appeal, is dependent on Claim 1. Claim 1 states: “A method of heart stimulation using an implantable heart stimulator capable of detecting a plurality of arrhythmias and capable of being programmed to undergo a single or multi-mode operation to treat a detected arrhythmia, corresponding to said mode of operation the method comprising: (a) determining a heart condition of the heart from among a plurality of conditions of the heart; (b) selecting at least one mode of operation of the implantable heart stimulator which operation includes a unique sequence of events corresponding to said determined condition; (c) executing said at least one mode of operation of said implantable heart stimulator thereby to treat said determined heart condition.” Claim 4 states: “The method of claim 1, wherein said at least one mode of operation of said implantable heart stimulator includes cardioversion.”

⁴³ *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 418 F. Supp. 2d 1021 (S.D. Ind. 2006).

⁴⁴ *Id.* at 1044.

⁴⁵ *Cardiac Pacemakers*, 576 F.3d at 1366.

footnote of the opinion.⁴⁶ This affirmed that supportive amicus briefs might also play an important role in determining outcomes of certain Federal Circuit cases. In particular, the Federal Circuit adopted the suggestions made by the Federal Circuit Bar Association and American Intellectual Property Law Association, in their amicus brief, that § 271(f) does not apply to process claims.⁴⁷

IV. WHAT ARE THE COMPONENTS OF A PROCESS CLAIM?

The first key issue decided by the Federal Circuit was whether the term “patented invention” in § 271(f) covers process claims. The Federal Circuit looked to the plain meaning of the statute, the legislative history,⁴⁸ and the context of the statute.⁴⁹

The Federal Circuit stated that the fundamental distinction between tangible *apparatus* claims and intangible *process* claims is critical to devising statute's meaning.⁵⁰ The Federal Circuit recognized that a component of an apparatus claim is a tangible part of the product, device, or apparatus, whereas a component of a process claim is an intangible step in that process.⁵¹

By comparing § 271(f) with § 271(c), the Federal Circuit further confirmed that components of a process are also steps of the process.⁵² Thus, a component of a process claim is an intangible step, but a component of an apparatus claim is a tangible element.

⁴⁶ *Id.* at 1359 n. 2 (stating that the court has received a number of briefs amicus curiae on the § 271(f) issue and is appreciative of these contributions).

⁴⁷ Brief for Federal Circuit Bar Ass'n and American Intellectual Prop. Law Ass'n as Amici Curiae Supporting Cross-Appellants, *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 576 F.3d 1348 (2009) (Nos. 2007-1296, 2007-1347), 2009 WL 1208020.

⁴⁸ *Cardiac Pacemakers*, 576 F.3d at 1362.

⁴⁹ *Id.* at 1363 (Federal Circuit considered context and stated that it is a fundamental canon of statutory construction that the words of a statute must be read in their context and with a view to their place in the overall statutory scheme).

⁵⁰ *Id.* at 1362.

⁵¹ *Id.* at 1362-63.

⁵² *Id.* at 1362-63.

V. A PRAGMATIC INTERPRETATION: CANNOT BE SUPPLIED, CANNOT APPLY

Cardiac Pacemakers overruled *Union Carbide Chemicals*⁵³ by holding that a component of process claims, namely a step in a process, cannot be supplied abroad under § 271(f). In *Union Carbide Chemicals*, relying on *Eolas Technologies*,⁵⁴ the Federal Circuit had ruled that § 271(f) makes no distinction between patentable process inventions and other forms of patentable subject matters.⁵⁵ *Cardiac Pacemakers*, however, observed that in the wake of *AT & T SC*,⁵⁶ § 271(f) requires components be supplied abroad for infringement to occur, and this “supplied” requirement eliminates process patents from § 271(f)’s reach.⁵⁷

Cardiac Pacemakers reasoned that the ordinary meaning of “supply” is to “provide that which is required,” or “to furnish with supplies, provisions, or equipment.”⁵⁸ Because this meaning implies the transfer of a tangible object, the Federal Circuit reasoned that supplying an intangible step is thus a physical impossibility.⁵⁹ The Federal Circuit cited its prior *NTP* case to support its position, stating that it is difficult to conceive how one might supply or cause to be supplied all or a substantial portion of the steps contemplated by § 271(f).⁶⁰

The Federal Circuit also found support for its decision in the legislative history. The Federal Circuit reasoned that because Congress enacted § 271(f) only to resolve the *Deepsouth* issue in which only tangible subject matters were involved, the statute

⁵³ *Union Carbide Chemicals & Plastics Tech. Corp. v. Shell Oil Co.*, 425 F.3d 1366 (Fed. Cir. 2005).

⁵⁴ *Eolas Technolgies, Inc. v. Microsoft Corp.*, 399 F.3d 1325, 1339 (Fed. Cir. 2005).

⁵⁵ *Union Carbide*, 425 F.3d at 1378-79.

⁵⁶ *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437 (2007).

⁵⁷ *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 576 F.3d 1348, 1352 (Fed. Cir. 2009).

⁵⁸ *Id.* at 1364.

⁵⁹ *Id.* at 1364 (stating that even *Cardiac Pacemakers* entities did not dispute this position in their appellate brief).

⁶⁰ *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1322 (Fed. Cir. 2005).

should not cover process claims unless Congress passed another law.⁶¹ Based on the reasons above, the Federal Circuit took a practical approach to decide that § 271(f) does not apply to process patents because intangible steps cannot be supplied abroad.⁶²

VI. PRESUMPTION AGAINST EXTRATERRITORIALITY AND OTHER POSSIBLE FACTORS

Following the *AT&T SC* decision, the Federal Circuit also adopted a presumption against extraterritoriality to support its decision. The presumption against extraterritoriality, which is based on the theory that a country's laws cannot reach beyond its sovereignty, presumes that U.S. legislation applies only within the domestic jurisdiction, unless a contrary intent appears.⁶³ The burden of overcoming this presumption lies with the party asserting application of U.S. laws to events that occurred abroad.⁶⁴

In *AT&T SC*, the Supreme Court had taken a narrow view of § 271(f) by stating that the presumption against extraterritoriality still applies to § 271(f), even though that section specifically extends the reach of U.S. patent law in a limited manner.⁶⁵ In light of the near complete absence of any Congressional intent to protect patented processes under § 271(f) and the explicit Congressional purpose of overruling *Deepsouth's* holding, this presumption compelled the Federal Circuit to limit the reach of § 271(f) to tangible patent claims.⁶⁶

The Federal Circuit may have also considered the potential economic effects of the high-tech industry in the United States while considering the *Cardiac Pacemakers* case. In *Cardiac Pacemakers*, most of the amicus briefs taking the position that § 271(f) should not cover process claims were prepared by high-

⁶¹ *Microsoft Corp.*, 550 U.S. at 457-58.

⁶² *Cardiac Pacemakers*, 576 F.3d at 1365-66.

⁶³ See *United States. E.E.O.C. v. Arabian American Oil Co.*, 499 U.S. 244 (1991); see also *Foley Bros., Inc. v. Filardo*, 336 U.S. 281, 285 (1949).

⁶⁴ See *Labor Union of Pico Korea, Ltd. v. Pico Prods., Inc.*, 968 F.2d 191, 194 (2d Cir.), *cert. denied*, 506 U.S. 985 (1992).

⁶⁵ *Microsoft Corp.*, 550 U.S. at 454-56.

⁶⁶ *Cardiac Pacemakers*, 576 F.3d at 1365.

tech companies.⁶⁷ These companies sought to exclude process claims to make the risk of patent infringement more manageable and predictable.

VII. IMPLICATIONS OF THE *CARDIAC PACEMAKERS* DECISION

Although it is too early to say whether there is a clear trend toward limiting patent rights, *Cardiac Pacemakers* clearly reduces rights provided by process claims. Process claim patent owners and related legal practitioners should be aware of this reduced scope of patent protection. For instance, those who have process inventions may need to consider whether they want to also include tangible apparatus claims in their patent application, in order to obtain § 271(f) protection.

Because § 271(f) provides a very limited protection against acts giving rise to foreign commercial activity that would infringe if performed in the United States, it is likely that patent attorneys have rarely made a priority of drafting claims that could support a cause of action under § 271(f). Nevertheless, for those cases where it is difficult or impossible to win allowance for claims drawn to a tangible apparatus, *Cardiac Pacemakers* indicates that in lieu of or in addition to drafting method claims, patent attorneys may consider drafting claims for some tangible combination of physical elements that occurs during the performance of the method.

For example, in the case of a catalyst it may be possible to claim some intermediate compound—rather than merely patenting the method by which the catalyst performs a chemical rearrangement of an unpatentable beginning set of compounds to an unpatentable ending set of compounds. For instance, the combination of the catalyst and the compound to which it binds may be patentable—even for a brief moment in the catalytic process. This could render the catalyst a “supplied component” under § 271(f), permitting legal action against a competing U.S. supplier. In like manner, it may be possible to draft a claim for a cardiac device implanted in the body and stimulating the heart, whereby the

⁶⁷ For example, Cisco Systems, Inc., Intel Corporation, Apple Inc., Oracle Corporation, Microsoft Corporation, Symantec Corporation, and Research in Motion have filed amicus briefs to support Cross-Appellants St. Jude entities.

device in its dormant state could be considered a component of the implanted device in its stimulating state. In a case of the export of computer code, it may be possible to patent the computer code and intermediate results that occur during a state of mid-execution of the computer program. Although there is always an incentive for practitioners to define an invention in a robust set of claim variations, the *Cardiac Pacemakers* ruling provides a greater impetus and justification for this practice.

In addition, since the Federal Circuit expressly showed its appreciation to those who submitted amicus briefs, this is a signal affirming that supportive amicus briefs may affect the outcomes of the cases in the Federal Circuit.⁶⁸

CONCLUSION

The Federal Circuit expressly excluded process claims from the application of § 271(f) in the *Cardiac Pacemakers* decision. Based on the ordinary meaning, the context of the statute, and legislative history, the Federal Circuit reasoned that a component of a process claim is an intangible step, which cannot be exported abroad. Thus, the Federal Circuit ruled in a practical way that § 271(f) does not apply to process claims, and this decision was supported by the principle of the presumption against extraterritoriality.

After the *Cardiac Pacemakers* decision, process patent claim owners cannot rely on the U.S. legal system to enforce their process patent rights under the export restriction in § 271(f). Legal practitioners should consider the possible effect of this change on process claims under prosecution or litigation.

PRACTICE POINTERS

- Under *Cardiac Pacemakers*, § 271(f) prohibits exporting physical components for foreign assembly, but does not protect process patent holders from businesses that export intangible processes outside the United States. Expect to have a limited

⁶⁸*Cardiac Pacemakers*, 576 F.3d at 1359 n. 2 (stating that the court received a number of briefs amicus curiae on the § 271(f) issue and appreciated the contributions).

right of process claims and estimate possible influence for enforcement of existing patent portfolios.

- In many situations, it may not be possible to gain broad protection for an apparatus if that apparatus is solely intangible. Therefore drafters should consider opportunities for obtaining patent protection for the intermediate states of an apparatus that might occur during execution of the process. For new patent applications, consider opportunities for inserting at least one tangible apparatus claim.
- To protect process claims in jurisdictions outside the U.S., consider acquiring patents in those foreign jurisdictions rather than relying on the export restrictions of § 271(f). While setting up a patent protection strategy, consider the possibility of obtaining patents in different jurisdictions.
- Consider context an important factor when interpreting statutory provisions in patent law. Be prepared for the possible effects of multiple interpretations of undefined terms. Process claims and apparatus claim may have different applications. But when interpreting the statute, a plain reading may be the trend.