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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZOLL LIFECOR CORPORATION Petitioner

v.

KONINKLIJKE PHILIPS ELECTRONICS N.V. Patent Owner

> Case IPR2013-00606 Patent 5,593,427

Patent Owner's Preliminary Response to Petition for *Inter Partes* Review of U.S. Patent No. 5,593,427

Table of Contents

I.	Introduction				
II.	The Filing Date for the Pending Petition Should Be Vacated Because Petitioner Did Not Identify All Real Parties in Interest or Related Matters as Required by 35 U.S.C. § 312 and 37 C.F.R. § 42.84				
	A.		Filing Date Should be Vacated Because Zoll Lifecor Failed entify all Related Matters		
		1.	Philips Asserted the '427 Patent Against Petitioner Zoll Lifecor and Asserted Related Patents Against Zoll Lifecor's Parent, Zoll Medical		
		2.	The Petition Shows that the Massachusetts Action Is a Related Matter		
		3.	Petitioner Has Admitted That the Pennsylvania Action, Which Includes Claims Asserting the '427 Patent, Relates Substantially to the Unreported Massachusetts Action		
	В.		Filing Date Should Also be Vacated Based on Zoll or's Failure to Identify all the Real Parties in Interest15		
		1.	Public Documents Show that Parent Zoll Medical Controls Its Wholly Owned Subsidiary, Zoll Lifecor16		
		2.	Zoll Medical Controls Zoll Lifecor's Involvement in the Pennsylvania Action and in This Proceeding		
		3.	Zoll Medical Could Have Controlled Zoll Lifecor's Involvement in the Pennsylvania Action and in This Proceeding		
		4.	Prior Decisions of the PTO Support Vacating the Filing Date in This Proceeding		
III.	Claim Construction				
	A.	A. Overview of the '427 Patent			

Case IPR2013-00606 Patent Owner's Preliminary Response

	B.	Claim Construction Standard and Prior Claim Construction Decisions			
	C.	Claim Terms			
		1.	"monitoring"	30	
		2.	"a function of"	33	
		3.	"energy source"	33	
		4.	"truncated biphasic (multiphasic) exponential waveform"	34	
		5.	"patient-dependent electrical parameter"	35	
		6.	"discharge parameter"	37	
IV.	The Petition Fails to Establish a Reasonable Likelihood of Prevailing as to Any Challenged Claim				
	A.	The Combinations of Bell in View of Either Pless, Kroll, or Schuder (Grounds 1–3) Are Not Supported			
	В.	The Alleged Obviousness-Type Double Patenting Grounds 4 and 5 Are Not Applicable			
		1.	The '879 Patent Cannot Be Used as a Reference Against the '427 Patent Under the Safe Harbor of 35 U.S.C. § 121	43	
		2.	Claim 9 of the '427 Patent Is Directed to a Patentably Distinct Species Than Claim 9 of the '454 Patent	45	
	C. Ground 3 as to Claims 2 and 3 Violates 37 C.F.R. § 42.104(b)(4)		46		
V.	Conc	Conclusion		47	

Case IPR2013-00606 Patent Owner's Preliminary Response

TABLE OF AUTHORITIES

	Page(s)
FEDERAL CASES	
Amgen Inc. v. Hoffman-La Roche Ltd., 580 F.3d 1340 (Fed. Cir. 2009)	44
Copperweld Corp. v. Independence Tube Corp., 467 U.S. 752 (1984)	24
Dalton v. Honda Motor Co., 425 F. App'x 886 (Fed. Cir. 2011)	24, 25
<i>In re Rambus Inc.</i> , 694 F.3d 42 (Fed. Cir. 2012)	
KSR International Co. v. Teleflex, Inc., 550 U.S. 398 (2007)	
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005)	9, 29, 32
St. Jude Medical, Inc. v. Access Closure, Inc., 729 F.3d 1369 (Fed. Cir. 2013)	45
<i>Taylor v. Sturgell</i> , 553 U.S. 880 (2008)	15
Universal Oil Products Co. v. Rexall Drug & Chemical Co., 463 F.2d 1122 (C.C.P.A. 1972)	24
Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576 (Fed. Cir. 1996)	
PATENT AND TRADEMARK OFFICE DECISIONS	
<i>In re Guan</i> , Reexamination Proceeding, Control No. 95/001,045, Decision Vacating Filing Date (Aug. 25, 2008)	26
Heart Failure Technologies, LLC v. CardioKinetix, Inc., IPR2013-00183, Paper 12 (PTAB July 31, 2013)	42

FEDERAL STATUTES

35 U.S.C. § 103
35 U.S.C. § 121
35 U.S.C. § 312
35 U.S.C. § 314
35 U.S.C. § 315
REGULATIONS
37 C.F.R. § 1.146
37 C.F.R. § 42.8passim
37 C.F.R. § 42.104passim
37 C.F.R. § 42.106
Office Patent Trial Practice Guide,77 Fed. Reg. 48,756 (Aug. 14, 2012) (to be codified at 37 C.F.R. pt. 42)passim
OTHER AUTHORITIES
18A Charles Alan Wright, Arthur R. Miller & Edward A. Cooper, Federal Practice and Procedure § 4451 (2d ed. 2011)16

Manual of Patent Examining Procedure § 2258 (8th ed., Rev. 7) (July 2008).....9, 29

I. Introduction

Patent owner Philips Electronics North America Corporation ("Philips")¹ submits this Preliminary Response in accordance with 35 U.S.C. § 313 and 37 C.F.R. § 42.07, responding to the Petition for *Inter Partes* Review of United States Patent No. 5,593,427 Pursuant to 35 U.S.C. §§ 311-319, 37 C.F.R. § 42 (the "petition") filed by Zoll Lifecor Corporation ("Zoll Lifecor" or "petitioner").

This is one of eight petitions for *inter partes* review that Zoll Lifecor has filed against related patents, all owned by Philips. These patents relate to the core functionality of defibrillators, including the electrical signal or waveform that shocks a patient. Philips asserted these eight patents against Zoll Lifecor in a litigation filed a year before the pending petition was filed. In addition, Philips asserted six of the eight patents against Zoll Lifecor's corporate parent, Zoll Medical Corporation ("Zoll Medical"), in a case that is still pending. Zoll Lifecor is a wholly owned subsidiary of Zoll Medical, and Zoll Medical has stated that it operates the Lifecor business through its Zoll Lifecor subsidiary. The patent at

¹ Although the caption for this proceeding indicates that Koninklijke Philips Electronics N.V. is the owner of U.S. Patent No. 5,593,427, the patent was assigned to Philips Electronics North America Corporation on August 18, 2010.

issue in this proceeding—U.S. Patent No. 5,593,427—is related to the six patents that were asserted against Zoll Medical.

Despite that related patents are at issue in the case against Zoll Medical, petitioner Zoll Lifecor did not identify the litigation against Zoll Medical as a related matter under 37 C.F.R. § 42.8(b)(2). The petitioner's failure to identify the pending litigation against Zoll Medical is made worse by the fact that the claim term "monitoring," which the petitioner seeks to construe in its pending petition, was construed in the case against Zoll Medical in a written order that the petitioner also fails to mention. Because 37 C.F.R. § 42.8 requires that a petitioner identify in the petition any judicial matter "that would affect or be affected by, a decision in the proceeding" and petitioner did not do that when it omitted the case against Zoll Medical, the petition is deficient and the filing date of the petition should be revoked.

The pending petition is also deficient because petitioner Zoll Lifecor violated a specific statutory provision when it failed to identify Zoll Medical as another real party in interest. Prior public statements by both Zoll Medical and Zoll Lifecor show that Zoll Medical is a real party in interest in this proceeding. As its corporate parent, Zoll Medical can exercise control over Zoll Lifecor. Moreover, Zoll Medical has in fact exercised control over Zoll Lifecor's business generally and Zoll Lifecor's participation in its litigation with Philips. Because the

requirement to identify "all" real parties in interest in a petition is a statutory one, 35 U.S.C. § 312, the pending petition is deficient and the filing date of the petition should be revoked.

Apart from failing to satisfy the requirements for a petition for *inter partes* review, petitioner Zoll Lifecor has not established a reasonable likelihood of prevailing as to any challenged claim. For instance, in all of its proposed rejections based on prior art, the petitioner seeks to combine the Bell reference with one of three other references. Yet the petitioner does not explain how the references could have been combined to arrive at the claimed invention or why a person of ordinary skill in the art would have made the combination. The petitioner seeks to pick and choose features from these references merely because they all involve defibrillation. Yet that is not a sufficient basis to combine references. The petitioner's proposed obviousness-type double patenting rejections are also flawed. Indeed, the Office determined in a parent application that the embodiments claimed in the identified patents are patentably distinct.

Based on any one of these defects, Philips requests that the Board not institute the requested *inter partes* review.

3

II. The Filing Date for the Pending Petition Should Be Vacated Because Petitioner Did Not Identify All Real Parties in Interest or Related Matters as Required by 35 U.S.C. § 312 and 37 C.F.R. § 42.8

The patent statute identifies the requirements for a petition for *inter partes* review and states that a petition "may be considered only if" it meets those requirements. 35 U.S.C. § 312(a) (emphasis added). One of those requirements is identifying "all real parties in interest." 35 U.S.C. § 312(a)(2). By statute, the requirements also include "such other information as the Director may require by regulation." 35 U.S.C. § 312(a)(4). By regulation, a petitioner must include "as part of the petition" an identification of "related matters," meaning "any other judicial or administrative matter that would affect, or be affected by, a decision in the proceeding," as well as an identification of "each real party-in-interest for the 37 C.F.R. § 42.8(a)(1), (b)(1), (b)(2); see also 37 C.F.R. § 42.104 party." (indicating that a petition for *inter partes* review must include "the requirements of" § 42.8). When a petition does not satisfy these requirements, it should not be accorded a filing date. 37 C.F.R. § 42.106 (stating that a petition "will not be accorded a filing date until the petition satisfies" certain requirements, including complying with § 42.104).

Here, the petitioner failed to identify in the pending petition all of the real parties in interest and all of the judicial matters that would affect or be affected by a decision in this proceeding. Because both of these are requirements for a petition for *inter partes* review and are thus requirements for receiving a filing date for a petition, the filing date for the pending petition should be vacated.

A. The Filing Date Should be Vacated Because Zoll Lifecor Failed to Identify all Related Matters

Zoll Lifecor's failure to identify all "related matters" is a fatal deficiency in the pending petition. The pertinent regulation requires a petitioner, "as part of the petition," to identify "any other judicial or administrative matter that would affect, or be affected by, a decision in the proceeding." *See* 37 C.F.R. § 42.8(a)(1), (b)(2); 37 C.F.R. § 42.104 (stating what the petition must set forth "[i]n addition to the requirements of" § 42.8); *see also* 35 U.S.C. § 312(a)(4) (stating that a petition "may be considered *only if* . . . the petition provides such other information as the Director may require by regulation") (emphasis added).

Here, Zoll Lifecor did not notify the Board regarding a related action filed by Philips against Zoll Lifecor's corporate parent in Massachusetts district court even though Zoll Lifecor admitted that that action (1) involved similar technology, (2) had numerous overlapping patents and substantive issues, and (3) had common discovery issues and common settlement negotiations as an action in Pennsylvania district court in which Philips asserted the '427 patent and others against Zoll Lifecor. This failure occurred despite the fact that Zoll Lifecor identifies the action in Pennsylvania as related to this proceeding. *See* Petition at 2.

1. Philips Asserted the '427 Patent Against Petitioner Zoll Lifecor and Asserted Related Patents Against Zoll Lifecor's Parent, Zoll Medical

The pending petition seeks *inter partes* review of one of eight patents asserted by Philips in an action alleging infringement by Zoll Lifecor. In that action, filed in the United States District Court for the Western District of Pennsylvania, Philips alleges infringement of the '427 patent and seven related patents based on a wearable defibrillator product, known as LifeVest (the "Pennsylvania Action"). Ex. 2001 (Complaint, *Koninklijke Philips Elecs. N.V. v. Zoll Lifecor Corp.*, Civ. A. No. 2:12-cv-01369 (W.D. Pa. Sept. 21, 2012), ECF No. 1) ("Pennsylvania Action Complaint"). With the petition in this proceeding and seven related petitions, Zoll Lifecor seeks *inter partes* review of all eight patents asserted in the Pennsylvania Action.

In an action filed two years before the Pennsylvania Action, Philips asserted six patents against Zoll Medical, Zoll Lifecor's corporate parent, in the United States District Court for the District of Massachusetts (the "Massachusetts Action"). Ex. 2002 (Complaint, *Koninklijke Philips Elecs. N.V. v. Zoll Med. Corp.*, Civ. A. No. 1:10-cv-11041 (D. Mass. June 18, 2010), ECF No. 1). The six patents Philips asserted in the Massachusetts Action are six of the eight patents for which Zoll Lifecor currently seeks review (not including the '427 patent):

Case IPR2013-00606 Patent Owner's Preliminary Response

U.S. Patent No.	Asserted Against Zoll Medical in Massachusetts Action	Asserted against Zoll Lifecor in Pennsylvania Action	Inter Partes Review Requested by Zoll Lifecor
5,607,454	\checkmark	\checkmark	\checkmark
5,735,879	\checkmark	\checkmark	\checkmark
5,749,905	\checkmark	\checkmark	\checkmark
5,803,927	\checkmark	\checkmark	\checkmark
5,836,978	\checkmark	\checkmark	\checkmark
6,047,212	\checkmark	\checkmark	\checkmark
5,593,427		\checkmark	\checkmark
5,749,904		\checkmark	\checkmark

All eight of these patents are related, each claiming priority to application serial no. 08/103,837. *See, e.g.*, Ex. 1001 at 1. And, in all eight petitions, including the one seeking review of the '427 patent, Zoll Lifecor identified the Pennsylvania Action as a related matter, but did not mention the Massachusetts Action, despite having admitted the significant overlap in issues involved and despite that the patents in both actions are related. *See, e.g.*, Petition at 2.

2. The Petition Shows that the Massachusetts Action Is a Related Matter

Because the Massachusetts Action involves six patents that are related to the '427 patent, it is a matter that could affect this proceeding or be affected by this proceeding. The pending petition demonstrates this point in its proposed claim constructions, where Zoll Lifecor identifies many of the same terms for construction in the pending petition as it does in the pending petitions on the six patents in the Massachusetts Action.

Specifically, in this proceeding, the petitioner seeks to have the following six claim terms construed: "monitoring," "a function of," "energy source," "truncated biphasic (multiphasic) exponential waveform," "patient-dependent electrical parameter," and "discharge parameter." Petition at 5-10. Those same terms appear in one or more of the six related patents at issue in the Massachusetts Action, and petitioner seeks to have most of those terms construed in the petitions for *inter partes* review that it filed for the patents in the Massachusetts Action. See IPR2013-00618 (for U.S. Patent No. 5,607,454), Petition at 6–7 (identifying five of those six claim terms for construction); IPR2013-00613 (for U.S. Patent No. 5,735,879), Petition at 6–10 (identifying five of those six claim terms for construction); IPR2013-00616 (for U.S. Patent No. 5,749,905), Petition at 5-8 (identifying four of those six claim terms for construction); IPR2013-00609 (for U.S. Patent No. 5,836,978), Petition at 6–9 (identifying four of those six claim terms for construction); IPR2013-00612 (for U.S. Patent No. 5,803,927), Petition at 6–8 (identifying four of those six claim terms for construction); IPR2013-00615 (for U.S. Patent No. 6,047,212), Petition at 5–6 (identifying one of those six claim terms for construction). Given the substantial overlap in identified terms and the

similarity of the arguments made in support of those terms, the petitioner has itself demonstrated the relatedness of the Massachusetts Action.

Moreover, the term "monitoring" that it seeks to have construed in the pending petition, as well as five of the petitions filed on the patents in the Massachusetts Action, was construed in the Massachusetts Action. Exhibit 2003 at 9–11 (Memorandum & Order, *Koninklijke Philips Elecs. N.V. v. Zoll Med. Corp.*, Civ. A. No. 1:10-cv-11041 (D. Mass. Nov. 26, 2012), ECF No. 106) ("Massachusetts Action Claim Construction Order"). The petitioner not only fails to identify that decision, it fails to acknowledge that the court in the Massachusetts Action rejected the construction that petitioner proposes here. *See infra* at § III.C.1.

The claim construction order from the Massachusetts Action is particularly relevant here because the '427 patent is expired. Claims of expired patents are construed as they would be in district court pursuant to *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005), rather than under the broadest reasonable interpretation. *See In re Rambus Inc.*, 694 F.3d 42, 46 (Fed. Cir. 2012); Manual of Patent Examining Procedure § 2258 (8th ed., Rev. 7) (July 2008). As a result, the court in the Massachusetts Action applied the same standard that should be applied here, making the court's decision not only relevant but one that can affect this proceeding.

Case IPR2013-00606 Patent Owner's Preliminary Response

The identified claim construction issues only highlight that the Massachusetts Action is a proceeding that could affect this proceeding and thus constitutes a related matter that should have been identified, but was not.

3. Petitioner Has Admitted That the Pennsylvania Action, Which Includes Claims Asserting the '427 Patent, Relates Substantially to the Unreported Massachusetts Action

In the Pennsylvania Action, Zoll Lifecor not only acknowledged that most of the patents asserted in that action had been asserted in the Massachusetts Action, but also repeatedly described the substantial similarity between those two actions. As a result, Zoll Lifecor's failure to identify the Massachusetts Action as a related matter in this proceeding cannot be considered inadvertent or based on lack of knowledge.

For instance, when seeking to have the Pennsylvania Action stayed based on the Massachusetts Action, Zoll Lifecor emphasized the overlap between the two actions and argued that the Massachusetts Action would impact the Pennsylvania Action. Ex. 2004 at 5 (Memorandum in Support of Zoll's Motion to Stay, *Koninklijke Philips Elecs. N.V. v. Zoll Lifecor Corp.*, Civ. A. No. 2:12-cv-01369 (W.D. Pa. Nov. 9, 2012), ECF No. 27) ("Pennsylvania Action Stay Brief") ("Because of the similarities of the issues presented in [the Pennsylvania Action] ... and the Massachusetts [Action] ... ZOLL respectfully requests that this Court stay this action until the conclusion of the liability phase of the Massachusetts [Action]."); *see also id.* at 9 ("The Massachusetts Court's analysis and decisions may also bear on the consideration of issues in this case."); Ex. 2005 at 1 (Zoll's Supplemental Brief in Support of its Motion to Stay, *Koninklijke Philips Elecs. N.V. v. Zoll Lifecor Corp.*, Civ. A. No. 2:12-cv-01369 (W.D. Pa. Feb. 1, 2013), ECF No. 44) ("Pennsylvania Action Supplemental Stay Brief") ("Stay Is Warranted Given The Substantial Overlap Of Issues With Those In Play In The Massachusetts [Action]").

In support of its assertions, Zoll Lifecor highlighted certain facts showing the relatedness of the two actions: (1) six of the eight patents asserted in the Pennsylvania Action were also asserted in the Massachusetts Action; (2) all eight patents, including the '427 patent, "relate to defibrillator technology" in general; and (3) all eight patents "were the subject of the parties' licensing negotiations." Ex. 2004 at 5 (Pennsylvania Action Stay Brief). Further, Zoll Lifecor stated that the "other two patents" not asserted in the Massachusetts Action, which includes the '427 patent, "are 'related' to the[] [six asserted] patents, in that they share [] common specifications and claim priority to the same parent applications as the six overlapping patents." *Id*.

Based on the common issues and patents between the two actions, Zoll Lifecor further argued that "the results in Massachusetts could moot this entire action" *Id.* at 9. For example, in numerous pleadings, Zoll Lifecor

highlighted the fact that findings related to invalidity or unenforceability could directly impact the Pennsylvania Action, including claims related to the "non-overlapping" '427 patent:

- "Of course, a finding in the Massachusetts [Action] that • any or all of the asserted claims in the six patents there that overlap with patents in this case are invalid or unenforceable will moot those claims for purposes of this case. . . . Moreover, the subsidiary issues bearing on invalidity and inequitable conduct that will be addressed in the Massachusetts [Action] potentially have *direct* applicability to the issues in this case, on both the six overlapping patents and the two non-overlapping patents." 2005 at 2 (Pennsylvania Action Ex. Supplemental Stay Brief) (emphasis added);
- "It cannot be disputed that any verdict in Massachusetts will be a significant development in the parties' broader patent war, and will provide a greater degree of clarity than the parties currently possess, particularly in view of the high degree of overlap between this case and the Massachusetts case." Ex. 2006 at 6 (Zoll Lifecor Corporation's Opposition to Philips's Motion to Lift Stay, Koninklijke Philips Elecs. N.V. v. Zoll Lifecor Corp., Civ. A. No. 2:12-cv-01369 (W.D. Pa. July 8, 2013), ECF No. 85) ("Pennsylvania Action Brief to Maintain Stay") (emphasis added);

"In short, there is substantial overlap of issues in this case as in the Massachusetts matter, and the potential for streamlining the issues in this case, and/or offering a more fully developed record, as a consequence of pausing this action for several more months until the liability trial in the Massachusetts Matter concludes warrants the stay ZOLL seeks." Ex. 2005 at 3 (Pennsylvania Action Supplemental Stay Brief) (emphasis added).

In precisely the same manner that a finding of invalidity or unenforceability in the Massachusetts Action could have affected the Pennsylvania Action, including claims involving the '427 patent (as argued by Zoll Lifecor), such a finding could also "affect . . . a decision in th[is] proceeding." *See* 37 C.F.R. § 42.8(b)(2). Moreover, because the Massachusetts Action was pending when the petition was filed, it also represents a "judicial . . . matter that would . . . be affected by, a decision in this proceeding." *See* 37 C.F.R. § 42.8(b)(2).

In addition to these admissions about the relatedness of the issues in the Pennsylvania Action and the Massachusetts Action, Zoll Lifecor admitted that the settlement negotiations between "the parties" (actually, as discussed below, *infra* at § II.B.2, between Zoll Medical and Philips) involved potential settlement of both of those actions simultaneously. Ex. 2006 at 1 (Pennsylvania Action Brief to Maintain Stay) (discussing mediation in the Pennsylvania Action potentially

leading to "global resolution to the parties' disputes," including the Massachusetts Action); Ex. 2004 at 1 (Pennsylvania Action Stay Brief) ("All of the asserted patents [in the Pennsylvania Action] were discussed in licensing negotiations between the parties dating back to $2008 \dots$ "); *id.* at 9 (noting in a pleading in the Pennsylvania Action that "the results in Massachusetts . . . will likely further drive settlement negotiations . . . ").

Further, Zoll Lifecor argued that the similarity of the issues between the two actions would, absent a stay, lead to "overlapping and duplicative discovery in both cases" *Id*.

Based on these prior statements by Zoll Lifecor, the Pennsylvania court granted the requested stay (but required mediation by the parties), delaying that action for over five months. Ex. 2007 (Memorandum Order, *Koninklijke Philips Elecs. N.V. v. Zoll Lifecor Corp.*, Civ. A. No. 2:12-cv-01369 (W.D. Pa. Feb. 6, 2013), ECF No. 45); Ex. 2008 (Memorandum Order, *Koninklijke Philips Elecs. N.V. v. Zoll Lifecor Corp.*, Civ. A. No. 2:12-cv-01369 (W.D. Pa. July 24, 2013), ECF No. 90). Those statements, however, cannot be reconciled with Zoll Lifecor's current failure to include the Massachusetts Action in the pending petition as a related matter. *See* Petition at 2. Zoll Lifecor's prior statements showing the relatedness of the Massachusetts Action, the Pennsylvania Action, and the pending proceeding further undermine its omission and provide additional support for concluding that Zoll Lifecor violated 37 C.F.R. § 42.8(b)(2).

Because the regulations require that a petitioner identify related matters "as part of the petition" in order to receive a filing date, *see* 37 C.F.R. §§ 42.8, 42.104, 42.106, and because the petitioner's omission of the admittedly related Massachusetts Action was not inadvertent, the filing date for this petition should be vacated.

B. The Filing Date Should Also be Vacated Based on Zoll Lifecor's Failure to Identify all the Real Parties in Interest

In the pending petition, Zoll Lifecor identified only itself as a real party in interest. *See* Petition at 2. Prior public statements by both Zoll Medical and Zoll Lifecor, however, show that Zoll Medical is also a real party in interest in this proceeding.

One common consideration in helping to identify a "real party in interest" as highlighted in the Patent and Trademark Office's Patent Trial Practice Guide is "whether the non-party exercised or could have exercised control over a party's participation in a proceeding." *See* Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,759 (Aug. 14, 2012) (to be codified at 37 C.F.R. pt. 42) (the "Practice Guide") (citing *Taylor v. Sturgell*, 553 U.S. 880, 895 (2008) (noting an exception to the rule against non-party preclusion if the party "assume[d] control" over the litigation in which that judgment was rendered") and 18A Charles Alan Wright, Arthur R. Miller & Edward A. Cooper, Federal Practice and Procedure § 4451 (2d ed. 2011)); *see* Practice Guide, 77 Fed. Reg. at 48,759 (stating that the "real party-in-interest' may be the petitioner itself, and/or it may be the party or parties at whose behest the petition has been filed"). Here, Zoll Medical *has* exercised control over Zoll Lifecor's business in general, including its legal proceedings, and also *could have* exercised control.

1. Public Documents Show that Parent Zoll Medical Controls Its Wholly Owned Subsidiary, Zoll Lifecor

Public documents reflect the close relationship between Zoll Medical and Zoll Lifecor, and show that corporate parent Zoll Medical has exercised consistent control over Zoll Lifecor's business. In its corporate disclosure statement in the Pennsylvania Action, Zoll Lifecor stated that it is a wholly owned subsidiary of Zoll Medical. Ex. 2009 at 1 (Zoll Lifecor Corporation's Disclosure Statement, *Koninklijke Philips Elecs. N.V. v. Zoll Lifecor Corp.*, Civ. A. No. 2:12-cv-01369 (W.D. Pa. Nov. 9, 2012), ECF No. 25). In a press release from April of 2006, Zoll Medical stated that it had recently acquired all the assets of a company called Lifecor, Inc.—assets totaling over \$15 million. Ex. 2010 at 1 (*ZOLL Medical Completes Acquisition of Business of LifeCor, Inc.*, http://www.zoll.com/news-releases/2006/04-10-06-zoll-acquisition-lifecor/ (last visited Dec. 9, 2013)) ("Press

Release"). The press release further stated that "ZOLL [Medical] will operate the Lifecor business through its ZOLL Lifecor subsidiary, based in Pittsburgh, Pennsylvania." *Id*.

Likewise, according to its public financial statements filed soon after that acquisition, Zoll Medical "now manufactures and markets [a] wearable external defibrillator system [i.e., LifeVest] through its subsidiary, ZOLL Lifecor Corporation." Ex. 2011 at 10 (Zoll Medical Corp., Annual Report (Form 10-K) (Dec. 15, 2006)) ("Zoll Medical 2006 Form 10-K"); see also id. at 62 (discussing the acquisition and stating that Zoll Medical "now utilizes those assets in its ZOLL Lifecor subsidiary"), 18 (discussing a manufacturing facility in Pittsburgh, where LifeVest is manufactured), 19 (noting that Zoll Medical has a "dedicated sales force[]" to sell the LifeVest product). Zoll Medical made clear it considers the facility in Pittsburg (where Zoll Lifecor is located) as Zoll Medical's "manufacturing facility" for the LifeVest product. Ex. 2012 at 39 (Zoll Medical Corp., Annual Report (Form 10-K) (Nov. 23, 2011)) ("Zoll Medical 2011 Form 10-K") (describing Pittsburgh as "where our LifeVest manufacturing facility is located") (emphasis added). In fact, Zoll Medical exercised an option to purchase the Pittsburgh manufacturing facility for \$10.8 million rather than continuing to lease the facility. Id. at 49 ("On October 11, 2011, [Zoll Medical] exercised our option to purchase the LifeVest facility in Pittsburgh, Pennsylvania for cash in the amount of \$10.8 million."); *id.* at 39.

Further, its financial statements show that Zoll Medical took responsibility for the clinical trials of the LifeVest product. Ex. 2013 at 27 (Zoll Medical Corp., Annual Report (Form 10-K) (Dec. 8, 2008)) ("Zoll Medical 2008 Form 10-K") ("We are conducting clinical trials related to . . . the LifeVest."). With these statements, Zoll Medical has demonstrated its active involvement and control over the LifeVest product at issue in the related Pennsylvania Action.

Moreover, a review of Zoll Lifecor's website (www.lifecor.com) shows that LifeVest is Zoll Lifecor's only product. Indeed, the website says "Welcome to Zoll LifeVest." Ex. 2014 (Zoll LifeVest - Welcome to Zoll LifeVest, Screenshot of Webpage). By controlling the LifeVest product, Zoll Medical does more than just control the product at issue in the Pennsylvania Action—it controls the *only* product of Zoll Lifecor.

Zoll Lifecor's website further shows that Zoll Medical exercises control over Zoll Lifecor in all aspects of its operations. For instance, it shows that Zoll Medical controls hiring at Zoll Lifecor. A link to "Careers" on Zoll Lifecor's website leads to a page identifying the Zoll LifeVest product and referring to the Zoll Pittsburgh facility. Ex. 2015 (Zoll LifeVest - Careers, Screenshot of Webpage). And clicking on any of the identified options, such as "Search and Apply for Current Opportunities" or "Embedded Software Engineer" leads the user away from Zoll Lifecor's website and onto Zoll Medical's website. Ex. 2016 (Zoll Corporate Information - Careers, Screenshot of Webpage); Ex. 2017 (Zoll Corporate Information - Embedded Software Engineer Posting, Screenshot of Webpage). As another example of Zoll Medical's control, the bottom of Zoll Lifecor's website indicates copyright ownership by Zoll Medical and also indicates that Zoll Medical owns the trademark rights for "LifeVest." Ex. 2014 (Zoll LifeVest - Welcome to Zoll LifeVest, Screenshot of Webpage).

Also, throughout the Pennsylvania Action, Zoll Lifecor referred to itself and its parent Zoll Medical as one collective entity, showing the closeness of the relationship and Zoll Medical's control over Zoll Lifecor. For example, in an effort to stay the Pennsylvania Action based on the earlier-filed Massachusetts Action, Zoll Lifecor repeatedly merged itself with Zoll Medical, seeking to show the alleged prejudice to them *together* as one collective corporate entity, which Zoll Lifecor referred to as "ZOLL." Ex. 2004 at 1 (Pennsylvania Action Stay Brief) (stating that Philips has "now sued ZOLL Medical Corporation or its wholly owned subsidiary ZOLL Lifecor Corporation (*collectively*, 'ZOLL') in three different venues") (emphasis added); *id.* at 10 (asserting that a stay in the Pennsylvania Action "would reduce the unfair burden to ZOLL of serial lawsuits without unfairly prejudicing Philips").) Further, Zoll Lifecor credited this collective entity, "ZOLL," (rather than Zoll Lifecor or Lifecor, Inc.) with "introduc[ing] *its* LifeVest product to the market" in 2001. *Id.* at 2 (emphasis added).

Similarly, in a failed attempt to maintain a stay granted by the court in the Pennsylvania Action, Zoll Lifecor characterized that action as "one battle in a broader, multi-state patent war that Philips initiated against ZOLL." Ex. 2006 at 2 (Pennsylvania Action Brief to Maintain Stay).

Through their public statements, Zoll Medical and Zoll Lifecor have shown that Zoll Medical controls Zoll Lifecor in all ways relevant to this proceeding.

2. Zoll Medical Controls Zoll Lifecor's Involvement in the Pennsylvania Action and in This Proceeding

In addition to controlling Zoll Lifecor's business generally, Zoll Medical also controls its subsidiary's involvement in the Pennsylvania Action and in this proceeding. This control has been demonstrated in various ways. First, as Zoll Lifecor admitted in pleadings in the Pennsylvania Action, no officers from Zoll Lifecor even attended the court-ordered mediation in that case, let alone handled the negotiations. Instead, Zoll Medical sent three of *its own* corporate officers: its President Jonathan Rennert, Vice-President and General Counsel Aaron Grossman, and Director of Intellectual Property Robert Follett. Ex. 2018 at 6–7, 9 (Zoll's Brief in Support of its Motion for Sanctions for Plaintiffs' Failure to Mediate in

Good Faith, *Koninklijke Philips Elecs. N.V. v. Zoll Lifecor Corp.*, Civ. A. No. 2:12cv-01369 (W.D. Pa. May 4, 2013), ECF No. 56) ("Pennsylvania Action Sanctions Brief"); Ex. 2006 at 1 (Pennsylvania Action Brief to Maintain Stay) ("Despite ZOLL's best efforts—it brought its President, General Counsel, Director of Intellectual Property, and its lead outside litigation counsel—the mediation was unsuccessful."). *Cf.* Ex. 2019 (Zoll Medical - Management Team, Screenshot of Webpage) *with* Ex. 2020 (Zoll LifeVest - Management, Screenshot of Webpage) (showing Rennert and Grossman in the management team of Zoll Medical, not Zoll Lifecor, and showing Robert Follett on neither team). Thus, it was Zoll Medical controlling potential settlement of the Pennsylvania Action, not Zoll Lifecor.

Second, counsel selected by Zoll Medical for the earlier-filed Massachusetts Action—Fish & Richardson, P.C.—also serve as counsel to Zoll Lifecor in both the Pennsylvania Action and in all eight of the pending proceedings, including this one involving the '427 patent. Ex. 2018 at 3 (Pennsylvania Action Sanctions Brief) (admitting that "ZOLL" retained the same law firm in both the Pennsylvania Action and the Massachusetts Action, among others); Ex. 2021 at 42 (Defendant's Answer to Plaintiffs' Amended Complaint, *Koninklijke Philips Elecs. N.V. v. Zoll Med. Corp.*, Civ. A. No. 1:10-cv-11041 (D. Mass. July 18, 2011), ECF No. 15) (listing Fish & Richardson, P.C. as counsel); Petition at 2–3 (same).)

Case IPR2013-00606 Patent Owner's Preliminary Response

Third, an expert witness disclosed by Zoll Medical in the Massachusetts Action—Dr. Wayne C. McDaniel—also serves as an expert in support of the pending petition. Ex. 2022, Email from Proshanto Mukherji, Fish & Richardson, P.C., to Philips-Zoll listserv (June 4, 2012, 2:50 p.m. EDT) (disclosing Dr. McDaniel in the Massachusetts Action); Ex. 1004 (Declaration of Wayne C. McDaniel, Ph.D.).

Fourth, Zoll Lifecor asserted that the stay in the Pennsylvania Action should remain in place because "*the parties* are busy preparing for trial" in the Massachusetts Action. *See* Ex. 2006 at 3 (Pennsylvania Action Brief to Maintain Stay) (emphasis added); *see also id.* at 4 ("There simply is no reason, at a time when *the parties* are focusing their resources on preparing for the October trial [in the Massachusetts Action], to ramp up activity in [the Pennsylvania Action].") (emphasis added). For that statement to make sense, Zoll Medical must be viewed as controlling Zoll Lifecor. Otherwise, there could be no prejudice to Zoll Lifecor in the Pennsylvania Action based on Zoll Medical's trial preparations in the Massachusetts Action.

Because Zoll Medical controls both this proceeding and the related Pennsylvania Action, it should be deemed a real party in interest.

22

3. Zoll Medical Could Have Controlled Zoll Lifecor's Involvement in the Pennsylvania Action and in This Proceeding

As noted above, one consideration in whether a non-party is a real party in interest is whether that non-party "*could have* exercised control over a party's participation in a proceeding." *See* Practice Guide, 77 Fed. Reg. at 48,759 (emphasis added). As parent to its wholly owned subsidiary Zoll Lifecor, Zoll Medical has the legal right to exercise control over this proceeding. Indeed, as discussed above, Zoll Medical did, in fact, exercise control over the mediation in the Pennsylvania Action. And whether or not Zoll Medical actually exercised control, it could have exercised control, making it a real party in interest.

At a fundamental level, the legal right of a parent corporation to control its wholly owned subsidiary flows from the parties' relationship and common interests. These common interests and the hierarchical structure of a parentsubsidiary relationship justify a parent corporation's control over the activities of its subsidiaries, as recognized by the Supreme Court in the antitrust context:

A parent and its wholly owned subsidiary have a complete unity of interest. Their objectives are common, not disparate; their general corporate actions are guided or determined not by two separate corporate consciousnesses, but one. . . . They share a common purpose whether or not the parent keeps a tight rein over

the subsidiary; the parent may assert full control at any moment if the subsidiary fails to act in the parent's best interests.

Copperweld Corp. v. Independence Tube Corp., 467 U.S. 752, 771–72 (1984).

More specifically, the Federal Circuit has recognized the legal right of a parent corporation to control administrative proceedings on behalf of its subsidiaries, reasoning, when reviewing a decision of the Trademark Trial and Appeal Board, that "[a] parent company has standing to file an opposition on behalf of its wholly-owned subsidiary because it can 'reasonably believe that damage to the subsidiary will naturally lead to financial injury to itself.'" *See Dalton v. Honda Motor Co.*, 425 F. App'x 886, 890 (Fed. Cir. 2011) (quoting *Universal Oil Products Co. v. Rexall Drug & Chemical Co.*, 463 F.2d 1122, 1124 (C.C.P.A. 1972), which held that a parent corporation had a "real interest" in a TTAB proceeding, and thus "standing to institute and maintain it").

Applying the Federal Circuit's holding to the facts here, Zoll Medical had standing to file—and thus "could have exercised control" over, *see* Practice Guide, 77 Fed. Reg. at 48,759—the pending petition seeking review of the '427 patent as well as the seven related petitions seeking review of the other patents asserted against Zoll Lifecor in the Pennsylvania Action. That Zoll Medical did not *actually* file the pending petitions is of no consequence; all that matters is that it "could have exercised control." *See id*.

Here, because Zoll Medical manages the LifeVest product at issue in the Pennsylvania Action "through its ZOLL Lifecor subsidiary," the potential injury to Zoll Medical is direct. Ex. 2010 at 1 (Press Release); Ex. 2011 at 10 (Zoll Medical 2006 Form 10-K). A favorable outcome for Zoll Lifecor in this proceeding—i.e., one invalidating or requiring amendment of any claims of the '427 patent—would *directly* benefit parent corporation Zoll Medical by eliminating an asserted claim in the Pennsylvania action against its LifeVest product. Thus, as in *Dalton*, parent Zoll Medical has the right to control this administrative proceeding on behalf of its wholly owned subsidiary, Zoll Lifecor. For this additional reason, Zoll Medical is a real party in interest in this proceeding.

4. Prior Decisions of the PTO Support Vacating the Filing Date in This Proceeding

As set forth above, Zoll Medical is a real party in interest in this proceeding. Zoll Lifecor, however, identified only itself as a real party in interest; it did not identify Zoll Medical. *See* Petition at 2. The statutory requirement to identify *all* real parties in interest is far from a mere formality. Its purpose is to "assist members of the Board in identifying potential conflicts, and to assure proper application of the statutory estoppel provisions[, which,] in turn, seek[] to protect patent owners from harassment via successive petitions by the same or related parties, to prevent parties from having a 'second bite at the apple,' and to protect the integrity of both the USPTO and Federal Courts by assuring that all issues are promptly raised and vetted." *See* Practice Guide, 77 Fed. Reg. at 48,759.

In a similar situation involving a failure to identify the real party in interest in an *inter partes* reexamination, the Office vacated the request's filing date. See In re Guan et al. Inter Partes Reexamination Proceeding, Control No. 95/001,045, Decision Vacating Filing Date at 8 (Aug. 25, 2008), cited in Practice Guide, 77 Fed. Reg. at 48,759 (noting that, with respect to the real-party-in-interest issue, "the Office's prior application of similar principles in the *inter partes* reexamination context offers additional guidance" for application in *inter partes* review). In that decision, the Office reasoned that if a requester did not have to name the real party in interest, the estoppel provisions in *inter partes* reexaminations could "easily be circumvented by naming a straw man in every first request." See In re Guan, Decision Vacating Filing Date at 8. Similarly, here, without the requirement to identify Zoll Medical as a real party in interest, Zoll Lifecor could be used as a "straw man" to help its parent corporation avoid the estoppel provisions of *inter partes* review. See 35 U.S.C. § 315(e). Because Zoll Lifecor failed to identify all real parties in interest, it should not have received a

filing date, *see* 37 C.F.R. §§ 42.8, 42.104, 42.106, and the filing date of the pending petition should be vacated.

III. Claim Construction

A. Overview of the '427 Patent

The '427 patent relates to the core functionality of defibrillators, namely, the electrical signal or waveform that shocks the patient. External defibrillators deliver energy to a patient's heart via electrodes applied to the surface of the patient's torso. Ex. 1001 at 1:28–30. Due to physiological differences among patients, the impedance (or resistance to the flow of electricity) of the tissue between the defibrillator electrodes and the patient's heart varies from patient to patient. *Id.* at 2:1–10. The intensity of the shock delivered to the heart can also vary depending on this impedance. *Id.* at 2:10–13. For example, a shock effective to treat a low-impedance patient may not be effective to treat a high-impedance patient. *Id.* at 2:13–15.

Prior-art external defibrillators did not adequately address this patient variability problem and typically provided user-selectable energy settings. *Id.* at 2:16–19. Using such a defibrillator, an operator would first try to defibrillate the patient by setting an energy level appropriate for a patient of average impedance. If the first shock did not defibrillate that patient, the operator would then raise the

energy level and try again. This process, however, added patient risk and reduced device efficiency. *See id.* at 2:16–26.

Implantable or internal defibrillators, on the other hand, do not need to account for patient variability. Each implantable defibrillator is dedicated to a single patient. *Id.* at 1:59–63. Moreover, internal defibrillation requires far less energy to defibrillate a patient with electrodes placed directly than does external defibrillation with pads or electrodes placed on the skin. *Id.* at 1:35–45. As a result, the use of different waveforms in implantable defibrillators provided very little guidance for the design of an external defibrillator that will achieve acceptable defibrillation or cardioversion rates across a wide population of patients. *Id.* at 3:60–64.

The '427 patent overcomes these drawbacks by providing an external defibrillator that automatically compensates for patient-to-patient impedance differences in real time during discharge of the energy from the defibrillator. *Id.* at 2:35–39. Specifically, as the energy is discharged into the patient, the defibrillator monitors or measures the patient's impedance and adjusts the discharge based on that impedance. *Id.* at 2:39–53. And this energy can be delivered in a biphasic or multiphasic waveform. *Id.* As the '427 patent explains, "[t]his method and apparatus of altering the delivered biphasic pulse thereby compensates for patient impedance differences by changing the nature of the delivered electrotherapeutic

pulse, resulting in a smaller, more efficient and less expensive defibrillator." *Id.* at 2:53–57.

B. Claim Construction Standard and Prior Claim Construction Decisions

The '427 patent has expired. And because it has expired, the claims are construed as they would be in a district court pursuant to *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005), rather than under the broadest reasonable interpretation. *See In re Rambus Inc.*, 694 F.3d 42, 46 (Fed. Cir. 2012) ("While claims are generally given their broadest possible scope during prosecution, . . . the Board's review of claims of an expired patent is similar to that of a district court's review."); Manual of Patent Examining Procedure § 2258 ("In a reexamination proceeding involving claims of an expired patent, claim construction is pursuant to the principles set forth by the court in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316, 75 USPQ2d 1321, 1329 (Fed. Cir. 2005) ").

Claim terms in patents related to the '427 patent have been construed in litigation. While the petitioner identifies two decisions construing claims in related patents, it omits other decisions, including a claim construction decision involving Zoll Medical and petitioner's counsel. Specifically, the petitioner submits a December 21, 2005, order in *Koninklijke Philips Elecs. NV v. Defibtech LLC*, C03-1322JLR (W.D. Wash.) (Ex. 1008) and an April 20, 2006 order in *Cardiac*

Case IPR2013-00606 Patent Owner's Preliminary Response

Science, Inc. v. Koninklijke Philips Elecs. N.V., Civil No. 03-1064 (D. Minn.) (Ex. 1009). But the petitioner does not submit or even mention an earlier claim construction order in *Koninklijke Philips Electronics NV v. Defibtech LLC*, No. C03-1322JLR (W.D. Wash.), dated October 25, 2005, (Ex. 2023) ("Defibtech Claim Construction Order"), or the claim construction order in the Massachusetts Action, dated November 26, 2012, (Ex. 2003) (Massachusetts Action Claim Construction Order), despite the fact that both of those orders construe the term "monitoring," which petitioner seeks to have construed in this petition.

The petitioner proposes construing six claim terms or phrases but does not explain why these terms need to be construed or why anything other than the plain meaning should apply. Indeed, the petitioner does not use its proposed constructions in connection with its proposed rejections, explain how its proposed constructions impacts its proposed rejections, or even identify which claims those terms appear in. Each of the terms is discussed below.

C. Claim Terms

1. "monitoring"

The term "monitoring" appears in claim 9. The petitioner seeks to construe "monitoring" as "sampling on a regular or ongoing basis" based on one of many definitions in a dictionary. Petition at 5 (citing Exhibit 1013). The petitioner fails to mention that this construction was expressly rejected by the district court in the

Case IPR2013-00606 Patent Owner's Preliminary Response

Massachusetts Action. Ex. 2003 at 9–11 (Massachusetts Action Claim Construction Order). The petitioner also does not explain why this term needs construction or why its construction should be adopted. To the extent that the Board determines that construction is warranted, the term "monitoring" should be construed as it was by the Massachusetts district court, as well as the Washington district court, to mean "measuring one or more times." Ex. 2003 at 11 (Massachusetts Action Claim Construction Order); Ex. 2023 at 11 (Defibtech Claim Construction Order).

As both courts found, excluding a single measurement from monitoring would exclude preferred embodiments. Ex. 2003 at 10–11 (Massachusetts Action Claim Construction Order); Ex. 2023 at 11 (Defibtech Claim Construction Order); *see also Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996) (stating that a construction that reads out a preferred embodiment "is rarely, if ever, correct and would require highly persuasive evidentiary support"). As the Washington court explained in the Defibtech case, the written description "illuminates the meaning of 'monitoring'" and shows that monitoring includes single measurements. Ex. 2023 at 10 (Defibtech Claim Construction Order). And the Washington court concluded that "[i]f 'monitoring' excludes single measurements, then none of the claims would cover the second and third aspects of the preferred embodiment, both of which admit the possibility that a single

measurement would suffice." *Id.* at 11. Likewise, the court in the Massachusetts Action said that "the patent must cover single measurements as well as ongoing monitoring" because the patent "discloses an invention the preferred embodiment of which has three 'aspects'" and "[d]epending on the patient's impedance, one of the three aspects requires only a single measurement." Ex. 2003 at 10–11 (Massachusetts Action Claim Construction Order).

The petitioner primarily relies on a dictionary to support its construction, but that dictionary cannot override the description of monitoring in the specification. *Phillips*, 415 F.3d at 1315 (citation omitted) ("[T]he specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term."). The petitioner also cites figures 3, 6, and 9 to argue that the '427 patent encompasses taking more than one measurement. Petition at 5–6. But the petitioner does not show that the patent *only* encompasses taking more than one measurement. Indeed, the petitioner does not even address those portions of the specification cited by the Washington and Massachusetts courts as showing that the patent also covers taking a single measurement.

For these reasons, to the extent that the Board determines that construction is warranted, the term "monitoring" should be construed to mean "measuring one or more times."

32

2. "a function of"

The phrase "a function of" appears in claims 5, 6, 12, and 14. The petitioner seeks to construe "a function of" as "based on." Petition at 6. But the petitioner does not explain why this term should be construed or why it should be given anything other than its plain and ordinary meaning. Philips does not believe any construction of "a function of" is necessary. To the extent that the Board determines that this phrase should be construed, then "based on" would be consistent with the Washington district court's construction of that term. Ex. 1008 at 10. In that case, the parties had agreed that a "function of" meant "based on" on the measured parameter. *Id.* The parties disputed whether the term required that it be based "solely" on the measured parameter. *Id.* And the court found no reason to limit the term "to require adjustments based solely on the cited parameter." *Id.*

3. "energy source"

The phrase "energy source" appears in claims 1, 2, 7, 9, 10, and 11. The petitioner seeks to construe "energy source" as "a source of energy that is capable of delivering a therapeutic shock to a patient." Petition at 7. But the petitioner does not explain why this term should be construed or why it should be given anything other than its plain and ordinary meaning. The petitioner also does not use this construction in its proposed rejections. In addition, the petitioner appears to be adding a limitation when it seeks to include "delivering a therapeutic shock to

the patient." Claim 1, for instance, does not recite delivering a therapeutic shock to the patient. It recites a "method for applying electrotherapy" and "discharging the energy source across the electrodes in a predetermined polarity."

Philips does not believe that any construction of "energy source" is necessary. The Washington court in the Defibtech case did construe "energy source" to mean "a source of energy that is capable of delivering a therapeutic shock to a patient," but the court focused on whether a battery could be part of an energy source. Ex. 1008 at 14. The court noted that the "patent indicates that a battery can be part of such an energy source" but concluded it need not reach the issue of which sources of energy constitute an energy source. *Id.* at 14–15. The petitioner also has not shown that this issue needs to be reached here.

To the extent that the Board determines that the phrase "energy source" should be construed, it would be more accurate to say that the energy source is "the source that is capable of supplying electrical energy" since the energy source itself does not deliver the shock.

4. "truncated biphasic (multiphasic) exponential waveform"

The petitioner seeks to construe the phrases "truncated biphasic exponential waveform" and "truncated multiphasic exponential waveform," but those phrases do not appear in the claims. The phrase "truncated exponential biphasic waveform" appears in claim 18. In addition, the phrase "multiphasic waveform"

appears in certain claims, including 9, 12, 14, 16, 17, and 18. Assuming that the petitioner meant to identify the phrase "truncated exponential biphasic waveform" rather than "truncated biphasic exponential waveform," it seeks to have it construed as "a defibrillation shock having two truncated exponential phases of opposite polarity." Petition at 7. The Petitioner does not explain why this term should be construed. To the extent that the Board determines that the phrase "truncated exponential biphasic waveform" should be construed is acceptable as it is the construction that the Minnesota court gave that term. Ex. 1009 at 96.

5. "patient-dependent electrical parameter"

The phrase "patient-dependent electrical parameter" appears in claim 9 and is referred to in claims 10, 11, and 12. The petitioner seeks to construe "patient-dependent electrical parameter" as "one or more electrical values, such as voltage, current, charge, etc. that varies depending on an aspect of a patient's particular physiology (e.g. impedance) and are sufficient to identify a value for that aspect of the physiology." Petition at 7–8. But the petitioner does not explain why this term should be construed or why its construction should be adopted. And the petitioner does not use this proposed construction in its claim chart or arguments in support of its proposed rejections. The petitioner does not even identify where the '427 patent specification supports its proposed construction. *See* Practice Guide, 77

Fed. Reg. at 48,764 (stating that "where a party believes that a specific term has meaning other than its plain and ordinary meaning, the party should provide a statement identifying the proposed construction of the particular term and where the disclosure supports that meaning").

The petitioner alleges that its construction is "consistent with constructions discussed in *Markman* orders issued in litigations relating to the Philips Waveform Patents, and is harmonious with constructions offered by Patentee during those proceedings" and cites a claim construction order from the Washington court in the Defibtech case. Petition at 7–8. But neither party in the Washington case put forth the construction that the petitioner advances and the district court did not discuss the petitioner's proposed construction.

To the extent that the Board determines that construction of this term is warranted, the electrical parameters refer to "an electrical characteristic, such as voltage, current, impedance, or charge." *See, e.g.*, Ex. 1001 at 2:7–10, 2:35–37, 4:21–32. While the phrase "patient-dependent" shows that the claimed electrical parameters are ones that are patient dependent and can thus vary between patients, the petitioner's proposed requirement that they "are sufficient to identify a value for that aspect of the physiology" does not have any support. The petitioner also does not explain what it means by this additional language.

For these reasons, to the extent that the Board determines that construction is warranted, "patient-dependent electrical parameter" should be construed to mean "an electrical characteristic, such as voltage, current, impedance, or charge."

6. "discharge parameter"

The term discharge parameter appears in claims 9, 12, 13, 14, and 15. The petitioner seeks to construe "discharge parameter" as "a property of the delivered electrotherapeutic pulse, for example, pulse (or phase) duration." Petition at 8. But the petitioner does not explain why this term should be construed or why its construction should be adopted. And petitioner does not use this construction in its claim chart or arguments concerning its proposed rejections.

Dependent claims 13 and 15 recite that the "discharge parameter of the later phase is phase duration," so the petitioner's example of "pulse (or phase) duration" in its construction adds nothing to what is already in the claims. Moreover, the '427 patent gives other examples of discharge parameters, such as the initial and terminal voltages of the first phase and the initial and terminal voltages of the second phase. Ex. 1001 at 4:33–47. There is no reason to give any examples or try to provide all examples of such parameters as part of the claim construction process.

The petitioner does not give any reason for its proposed language "property of the delivered electrotherapeutic pulse." Claim 9 recites "discharging the energy

source across the electrodes to deliver electrical energy to the patient in a multiphasic waveform." It appears that the petitioners are attempting to rewrite that limitation to be a "delivered electrotherapeutic pulse." But the claimed discharge parameter refers to a parameter of the discharge that occurs when "discharging the energy source across the electrodes" and not to a "delivered electrotherapeutic pulse." Further the petitioner has merely substituted the word "property" for "parameter" without explaining why or what is meant.

There is no need to construe the term "discharge parameter" beyond its plain meaning as a parameter of the discharge.

IV. The Petition Fails to Establish a Reasonable Likelihood of Prevailing as to Any Challenged Claim

The petitioner asserts five proposed grounds of unpatentability: (1) claims 1–8 as obvious based on Bell (Ex. 1005) in view of Pless (Ex. 1006); (2) claims 9–18 as obvious based on Bell in view of Kroll (Ex. 1007); (3) claims 2, 3, 9, and 16–18 as obvious based on Bell in view of Schuder (Ex. 1010); (4) obviousness-type double patenting of claim 1 over claim 4 of U.S. Patent No. 5,735,879 (Ex. 1011); and (5) obviousness-type double patenting of claim 9 over claim 9 of U.S. Patent No. 5,607,454 (Ex. 1012). None of these proposed grounds establishes a reasonable likelihood that petitioner would prevail as to at least one challenged claim. *See* 35 U.S.C. § 314(a).

A. The Combinations of Bell in View of Either Pless, Kroll, or Schuder (Grounds 1–3) Are Not Supported

In its grounds 1–3, the petitioner proposes obviousness rejections based on Bell in view of any one of Pless, Kroll, or Schuder. The petitioner, however, has not supported its proposed combinations.

The Supreme Court in *KSR* noted that the key to supporting any rejection under 35 U.S.C. § 103 is a clear articulation of the reason or reasons why the claimed invention would have been obvious. *See KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007) (explaining that the determination of obviousness requires "some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness"). It is the petitioner's burden to demonstrate how the prior art would have made obvious the claimed subject matter as a whole. Here, the petitioner failed to do so.

Instead, the petitioner simply makes conclusory statements that Bell, Pless, Kroll, and Schuder disclose various elements of the claims, but does not explain how the references could have been arranged or combined to arrive at the claimed invention, or why a person of ordinary skill in the art would have made the combination. The petitioner gives the same conclusory rationale for combining the *external* defibrillator of Bell separately with each of the *implantable* defibrillators of Pless, Kroll, or Schuder—the "increased effectiveness of biphasic waveforms over monophasic waveforms." *See* Petition at 21, 25, 29. The only support the petitioner provides for this rationale is the same conclusory statement in a declaration by its expert, Dr. McDaniel. *See* Ex. 1004, ¶¶ 39, 40, 41. And the declaration itself provides no support for this contention.

Neither the petitioner nor its declarant explains why one of ordinary skill in the art would have selected any one of Pless, Kroll, or Schuder over other implantable defibrillators. And neither the petitioner nor its declarant explains why or how an electrotherapy method using monophasic waveforms, as taught in in Bell, could have been combined with biphasic waveforms to arrive at the claimed invention. Likewise, the petitioner neither puts forth any articulable rationale for combining implantable and external defibrillator technologies, nor establishes why a person of ordinary skill in the art would have made such a combination.

The '427 patent explains that "[p]rior art disclosures of the use of truncated exponential biphasic waveforms in implantable defibrillators have provided little guidance for the design of an external defibrillator that will achieve acceptable defibrillation or cardioversion rates across a wide population of patients." Ex. 1001 at 3:60–64. External defibrillation requires far greater energy to defibrillate a patient through pads or electrodes placed on the skin rather than those placed directly on a heart. *Id.* at 1:35–45. In addition, external defibrillators must be

capable not just of defibrillating a patient for a few seconds after fibrillation, but minutes or longer.

As explained in a declaration submitted during prosecution of related U.S. Patent No. 6,047,212 (see IPR2013-00615), implantable defibrillators cannot simply be used as or incorporated into external defibrillators at least because of the high voltage and high energy requirements of an external defibrillator. Ex. 2024 (Declaration of Daniel J. Powers under 37 C.F.R. § 1.132, U.S. Patent Application Serial No. 08/946,843 (May 27, 1999)). That declaration further explains the challenges presented in designing a high voltage, high energy biphasic external defibrillator. Id. at 3 ("In order to build a high voltage, high energy biphasic defibrillator which is used externally, the circuit must be designed so that it can withstand voltages in excess of 1500 volts. This design must take into consideration the fact that readily available switches have an upper limit voltage rating of 1200–1400 volts. . . . Because of the higher voltages present in the external defibrillator, a major design challenge becomes terminating phase one. This problem is further exacerbated by shorter phase durations.")

The petitioner does not address any of these issues or explain how the features of the implantable defibrillators of Pless, Kroll, or Schuder could have been implemented as an operable system in the external defibrillator disclosed in Bell. Thus, the petition fails to "show some *reason* why a person of ordinary skill

in the art would have thought to combine *particular* available elements of knowledge, as evidenced by the prior art, to reach the claimed invention." *Heart Failure Techs., LLC v. Cardiokinetix, Inc.*, IPR2013-00183, Paper 12 at 9 (PTAB July 31, 2013) (citing *KSR*, 550 U.S. at 418) (emphasis in original). Indeed, one of ordinary skill in the art at the time of the invention would have been discouraged from attempting to combine such elements based on at least the reasons provided herein.

At bottom, the petitioner seeks to pick and choose features from the various references for no other reason than that they all involve defibrillators. But the fact that Bell, Pless, Kroll, and Schuder all relate to cardiac defibrillation does not provide sufficient basis for combining those references. *See Heart Failure*, IPR2013-00183, Paper 12 at 9 (explaining that the fact that all of the cited references "concern human heart repair is not in itself sufficient rationale for making the combination").

In all, the petition does not provide adequate reasons to support the proposed obviousness rejections. Therefore, the petition fails to demonstrate a reasonable likelihood of showing a *prima facie* case of obviousness for grounds 1–3.

42

B. The Alleged Obviousness-Type Double Patenting Grounds 4 and 5 Are Not Applicable

The petitioner asserts that claim 1 of the '427 patent is invalid on the grounds of obviousness-type double patenting over claim 4 of U.S. Patent No. 5,735,879 (the "'879 patent"), and that claim 9 of the '427 patent is invalid on the grounds of obviousness-type double patenting over claim 9 of U.S. Patent No. 5,607,454 (the "'454 patent"). Because the '427 patent has expired and had no term that extended beyond the terms of either the '879 patent or the '454 patent obviousness-type double patenting is not applicable. Likewise, for at least the following reasons, the alleged double patenting grounds lack merit.

1. The '879 Patent Cannot Be Used as a Reference Against the '427 Patent Under the Safe Harbor of 35 U.S.C. § 121

The '427 patent is a divisional of U.S. Patent Application No. 08/103,837 (the "'837 application"), *see* Ex. 1001 at 1, while the '879 patent is a continuation of the '837 application, *see* Ex. 1011 at 1. The PTO issued an election of species requirement in the '837 application. In that office action, the PTO found that the '837 application claimed seven patentably distinct species, including a species defined by figure 3 and a species defined by figure 6. Ex. 2025 at 2 (Examiner's Action, U.S. Patent Application Serial No. 08/103,837 (June 16, 1995)). In response, the applicants elected for prosecution claims 1–5, 8–12, 23–32, 35, 36, 38, 42, and 43, which were directed to the species defined by figure 3 of the

application. Ex. 2026 at 3 (Amendment under 37 C.F.R. §1.111, U.S. Patent Application Serial No. 08/103,837 (June 26, 1995)). The application for the '427 patent was then filed as a divisional to pursue claims 15–22 directed to the species defined by figure 6 of the '837 application. Ex. 1002 at 74, 82; Ex. 2025 at 2. The '837 application was later abandoned and the application for the '879 patent was filed concurrently to pursue the same claims that were elected for prosecution in the '837 application.² That is, the claims of the '427 patent and the '879 patent are directed to distinct species as identified by the PTO in the election of species requirement. Specifically, elected claim 4 of the '837 application became claim 4 of the '879 patent, which the petitioner relies on for its proposed obviousness-type double patenting rejection.

Under 35 U.S.C. § 121, a "patent issuing on an application with respect to which a requirement for restriction under this section has been made, or on an application filed as a result of such a requirement, shall not be used as a reference either in the Patent and Trademark Office or in the courts against a divisional application or any patent issued on either of them, if the divisional application is

² *Amgen Inc. v. Hoffman-La Roche Ltd.*, 580 F.3d 1340 (Fed. Cir. 2009), cited in the petition, is not applicable here. Unlike in *Amgen*, the '427 patent was clearly designated as a divisional of the '837 application. Ex. 1001 at 1.

filed before the issuance of the patent on the other application." This provision bars the rejection proposed by the petitioner.

As discussed above, the '427 patent was filed as a result of an election of species requirement in the '837 application. Because independent claim 15 of the '837 application, which became claim 1 of the '427 patent, was not found to be a generic claim, the election of species in the '837 application created a restriction under 35 U.S.C. § 121, and accordingly, the safe harbor provision of § 121 applies to the '427 patent. *See* 37 C.F.R. § 1.146 ("his or her claim *will be restricted* if no claim to the genus is found to be allowable") (emphasis added); *see also St. Jude Med., Inc. v. Access Closure, Inc.*, 729 F.3d 1369, 1378–79 (Fed. Cir. 2013). Accordingly, the '879 patent cannot be used as a reference against the '427 patent for obviousness-type double patenting.

2. Claim 9 of the '427 Patent Is Directed to a Patentably Distinct Species Than Claim 9 of the '454 Patent

Like claim 1 of the '427 patent discussed above, claim 9 of the '427 patent is directed to the species of figure 6. Claim 9 recites, in part, "the adjusting step comprising discharging the energy source across the electrodes in a phase of the multiphasic waveform until the end of a predetermined time period *or until* the monitored electrical parameter reaches a predetermined value, *whichever occurs first.*" Ex. 1001 at 8:38–42 (emphasis added). In contrast, like claim 4 of the '879

patent discussed above, claim 9 of the '454 patent is directed to the species of figure 3. It recites that the energy source is discharged until a selected phase duration *and* a threshold for a monitored electrical parameter is reached. Ex. 1012 at 11:62–64. The PTO already expressly found that the species of figures 3 and 6 are patentably distinct when issuing a restriction requirement in the '837 application. Ex. 2025. As a result, because claim 9 of the '427 patent and claim 9 of the '454 patent are directed to patentably distinct species, obviousness-type double patenting does not apply.

C. Ground 3 as to Claims 2 and 3 Violates 37 C.F.R. § 42.104(b)(4)

Under 37 C.F.R. § 42.104(b)(4), the petitioner was required to "specify where each element of the claim is found in the prior art patents or printed publications relied upon." The petitioner did not do this for claims 2 and 3 of proposed Ground 3 of Bell in view of Schuder. *See* Petition at 29. Claim 2 depends from claim 1 and claim 3 depends from claim 2. Thus, both claims 2 and 3 include the limitations of claim 1.

The petitioner, however, does not show where the elements of claim 1 are found in the combination of Bell in view of Schuder. *See id.* For Ground 1, the petitioner alleged that claim 1 would have been obvious based on Bell in view of Pless. The petitioner did not include claim 1 in its proposed Ground 2. As a result, nowhere in the petition does the petitioner specify how the elements of claim 1 are found in Bell in view of Schuder. For at least that reason, the petitioners' proposed rejection of claims 2 and 3 based on Bell in view of Schuder is deficient.

V. Conclusion

Because Zoll Lifecor did not identify all real parties in interest and did not identify all related litigation, its petition does not comply with the statute and the regulations and the filing date of the petition should be vacated. Further, because the petition does not establish a reasonable likelihood of prevailing as to any of the challenged claims, the petition should not be denied.

Respectfully submitted,

Dated: December 23, 2013

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Counsel for Patent Owner Philips Electronics North America Corporation

CERTIFICATE OF SERVICE

I hereby certify that on this 23rd day of December 2013, a copy of Patent

Owner's Preliminary Response to Petition for Inter Partes Review of

U.S. Patent No. 5,593,427 and supporting materials were served by electronic

mail, as agreed by the parties, upon the following:

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APPENDIX - LIST OF EXHIBITS

Exhibit No.	Description	Previously Submitted
2001	Complaint, <i>Koninklijke Philips Elecs. N.V. v. Zoll Lifecor</i> <i>Corp.</i> , Civ. A. No. 2:12-cv-01369 (W.D. Pa. Sept. 21, 2012), ECF No. 1 ("Pennsylvania Action Complaint").	
2002	Complaint, <i>Koninklijke Philips Elecs. N.V. v. Zoll Med.</i> <i>Corp.</i> , Civ. A. No. 1:10-cv-11041 (D. Mass. June 18, 2010), ECF No. 1 ("Massachusetts Action Complaint").	
2003	Memorandum & Order, <i>Koninklijke Philips Elecs. N.V. v.</i> <i>Zoll Med. Corp.</i> , Civ. A. No. 1:10-cv-11041 (D. Mass. Nov. 26, 2012), ECF No. 106 ("Massachusetts Action Claim Construction Order").	
2004	Memorandum in Support of Zoll's Motion to Stay, <i>Koninklijke Philips Elecs. N.V. v. Zoll Lifecor Corp.</i> , Civ. A. No. 2:12-cv-01369 (W.D. Pa. Nov. 9, 2012), ECF No. 27 ("Pennsylvania Action Stay Brief").	
2005	Zoll's Supplemental Brief in Support of its Motion to Stay, <i>Koninklijke Philips Elecs. N.V. v. Zoll Lifecor Corp.</i> , Civ. A. No. 2:12-cv-01369 (W.D. Pa. Feb. 1, 2013), ECF No. 44 ("Pennsylvania Action Supplemental Stay Brief").	
2006	Zoll Lifecor Corporation's Opposition to Philips's Motion to Lift Stay, <i>Koninklijke Philips Elecs. N.V. v. Zoll Lifecor</i> <i>Corp.</i> , Civ. A. No. 2:12-cv-01369 (W.D. Pa. July 8, 2013), ECF No. 85 ("Pennsylvania Action Brief to Maintain Stay").	
2007	Memorandum Order, <i>Koninklijke Philips Elecs. N.V. v.</i> <i>Zoll Lifecor Corp.</i> , Civ. A. No. 2:12-cv-01369 (W.D. Pa. Feb. 6, 2013), ECF No. 45.	
2008	Memorandum Order, <i>Koninklijke Philips Elecs. N.V. v.</i> <i>Zoll Lifecor Corp.</i> , Civ. A. No. 2:12-cv-01369 (W.D. Pa. July 24, 2013), ECF No. 90.	
2009	Zoll Lifecor Corporation's Disclosure Statement, <i>Koninklijke Philips Elecs. N.V. v. Zoll Lifecor Corp.</i> , Civ. A. No. 2:12-cv-01369 (W.D. Pa. Nov. 9, 2012), ECF No. 25.	

Exhibit No.	Description	Previously Submitted
2010	Zoll Medical Corp., <i>Zoll Medical Completes Acquisition of Business of LifeCor, Inc.</i> , http://www.zoll.com/news-releases/2006/04-10-06-zoll-acquisition-lifecor/ (last visited Dec. 9, 2013) ("Press Release").	
2011	Zoll Medical Corp., Annual Report (Form 10-K) (Dec. 15, 2006), <i>available at</i> http://www.sec.gov/Archives/edgar/data/887568/0001193 12506254446/0001193125-06-254446-index.htm ("Zoll Medical 2006 Form 10-K").	
2012	Zoll Medical Corp., Annual Report (Form 10-K) (Nov. 23, 2011), <i>available at</i> http://www.sec.gov/Archives/edgar/data/887568/0001193 12511321014/0001193125-11-321014-index.htm ("Zoll Medical 2011 Form 10-K").	
2013	Zoll Medical Corp., Annual Report (Form 10-K) (Dec. 8, 2008), <i>available at</i> http://www.sec.gov/Archives/edgar/data/887568/0001193 12508249638/0001193125-08-249638-index.htm ("Zoll Medical 2008 Form 10-K").	
2014	Zoll LifeVest - Welcome to Zoll LifeVest, http://lifecor.com (last visited December 9, 2013) ("Zoll LifeVest - Welcome to Zoll LifeVest, Screenshot of Webpage").	
2015	Zoll LifeVest - Careers, http://lifecor.com/about- us/careers.asp (last visited December 9, 2013) ("Zoll LifeVest - Careers, Screenshot of Webpage").	
2016	Zoll Corporate Information - Careers, https://zoll- openhire.silkroad.com/ epostings/index.cfm?version=1&company_id=16547 (last visited December 9, 2013) ("Zoll Corporate Information - Careers, Screenshot of Webpage").	

Exhibit No.	Description	Previously Submitted
2017	Zoll Corporate Information -Embedded Software Engineer Posting, https://zoll- openhire.silkroad.com/epostings/index.cfm?fuseaction= app.jobinfo&jobid=160&source=ONLINE&JobOwner=99 2379&company_id=16547&version=1&byBusinessUnit= NULL&bycountry=0&bystate=0&bylocation=&keywords =&byCat=&proximityCountry=&postalCode=&radiusDist ance=&isKilometers=&tosearch=yes (last visited December 9, 2013) ("Zoll Corporate Information - Embedded Software Engineer Posting, Screenshot of Webpage").	
2018	Zoll's Brief in Support of its Motion for Sanctions for Plaintiffs' Failure to Mediate in Good Faith, <i>Koninklijke</i> <i>Philips Elecs. N.V. v. Zoll Lifecor Corp.</i> , Civ. A. No. 2:12- cv-01369 (W.D. Pa. May 4, 2013), ECF No. 56 ("Pennsylvania Action Sanctions Brief").	
2019	Zoll Medical - Management Team, http://www.zoll.com/about-zoll/management-team/ (last visited December 10, 2013) ("Zoll Medical - Management Team, Screenshot of Webpage").	
2020	Zoll LifeVest - Management, http://www.lifecor.com/about-us/management.asp (last visited December 10, 2013) ("Zoll LifeVest - Management, Screenshot of Webpage").	
2021	Defendant's Answer to Plaintiffs' Amended Complaint, <i>Koninklijke Philips Elecs. N.V. v. Zoll Med. Corp.</i> , Civ. A. No. 1:10-cv-11041 (D. Mass. July 18, 2011), ECF No. 15.	
2022	Email from Proshanto Mukherji, Fish & Richardson, P.C., to Philips-Zoll listserv (June 4, 2012, 2:50 p.m. EDT).	
2023	Order, <i>Koninklijke Philips Elecs. N.V. v. Defibtech LLC</i> , Civ. A. No. C03-1322 (W.D. Wash. Oct. 25, 2005), ECF No. 119 ("Defibtech Claim Construction Order").	
2024	Declaration of Daniel J. Powers under 37 C.F.R. § 1.132, U.S. Patent Application Serial No. 08/946,843 (May 27, 1999).	
2025	Examiner's Action, U.S. Patent Application Serial No. 08/103,837 (June 16, 1995).	

Exhibi No.	Description	Previously Submitted
2026	Amendment under 37 C.F.R. §1.111, U.S. Patent Application Serial No. 08/103,837 (June 26, 1995).	