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Paper 65
Entered: March 16, 2016

UNITED STATES PATENT AND
TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND
APPEAL BOARD

PETROLEUM GEO-SERVICES INC.,
Petitioner,

v.

WESTERNGECO LLC
Patent Owner.

Case IPR2014-01475
Patent 7,162,967 B2

Before BRYAN F. MOORE, SCOTT A. DANIELS, and
BEVERLY M. BUNTING, *Administrative Patent
Judges.*

DANIELS, *Administrative Patent Judge.*

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

A. Background

Petroleum Geo-Services (“Petitioner,” or “PGS”) filed a Petition to institute an *inter partes* review of claim 4 of U.S. Patent No. 7,162,967 B2 (“the ’967 patent”). Paper 1 (“Pet.”). WesternGeco LLC (“Patent Owner”) timely filed a Preliminary Response. Paper 12 (“Prelim. Resp.”). We instituted trial in *Petroleum Geo-Services, Inc., v. WesternGeco LLC*, Case IPR2014-01475, for claim 4 of the ’967 patent on certain grounds of unpatentability alleged in the Petition. Paper 18 (“Decision to Institute” or “Dec. on Inst.”). Patent Owner, in due course, filed a Response. Paper 45 (“PO Resp.”). Petitioner subsequently filed a Reply. Paper 47 (“Pet. Reply”).¹

An oral hearing was held on November 10, 2015. A transcript of the hearing is included in the record. Paper 64 (“Tr.”).

The Board has jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has proven, by a preponderance of the evidence, that claim 4 of the ’967 patent is unpatentable.

B. Additional Proceedings

Lawsuits involving the ’967 patent presently asserted against Petitioner include *WesternGeco LLC v. Petroleum Geo-Services, Inc.*, 4:13-cv-02725 (the

¹ We refer here to the paper numbers of the redacted versions of Patent Owner’s Response and Petitioner’s Reply.

“PGS lawsuit”) in the Southern District of Texas, *WesternGeco LLC v. ION Geophysical Corp.*, 4:09-cv-01827 (the “ION lawsuit”) also in the Southern District of Texas, and *WesternGeco LLC v. ION Geophysical Corp.*, 13-1527 (Fed. Cir.). Pet. 2.

The '967 patent was also challenged in *Petroleum Geo-Services Inc. v. WesternGeco LLC* (IPR2014-00687) (PTAB Aug. 5, 2014) (the “first PGS IPR”); and *ION Geophysical Corp. v. WesternGeco LLC*, (IPR2015-00566) (PTAB Jan. 14, 2015).²

C. The '967 Patent

The '967 patent (Ex. 1001), titled “Control System for Positioning of Marine Seismic Streamers,” relates generally to a method and apparatus for improving marine seismic survey techniques to more effectively control the movement and positioning of marine seismic streamers towed in an array behind a boat. Ex. 1001, 1:24–36. As illustrated in Figure 1 of the '967 patent, reproduced below, labeled “Prior Art,” a seismic source is towed by boat 10, for example air gun 14, producing acoustic signals which are reflected off the earth below. *Id.* at 3:41–43.

² IPR2015-00566 was joined with IPR2014-00687 and a Final Written Decision in that proceeding was mailed by the Board on December 15, 2015.

95a

Fig. 1.

Prior Art

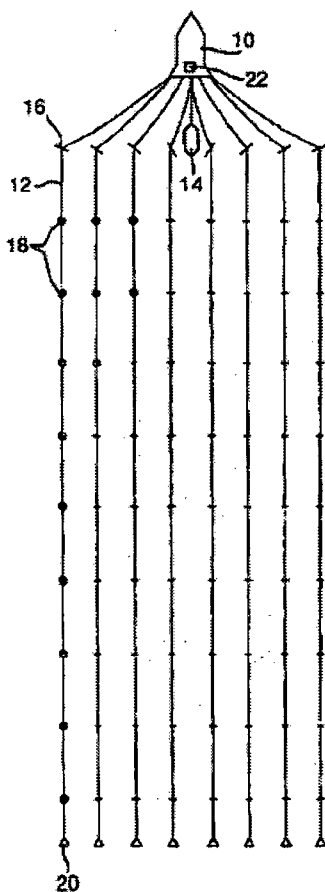


Figure 1 depicts an array of seismic streamers 12 towed behind vessel 10. The streamers each have a plurality of horizontally and vertically steerable "birds" 18 also referred to in the '967 patent as "streamer positioning devices." *Id.* at 3:53-55. In this Decision we use the terms "birds," "streamer positioning devices," or "SPD's," interchangeably. The

reflected acoustic signals are received by hydrophones (no reference number) attached to streamers 12, and the signals are "digitized and processed to build up a representation of the subsurface geology." *Id.* at 1:38–41. Birds 18 are horizontally and vertically steerable and control the shape and position of the streamer in both vertical (depth) and horizontal directions. *Id.* at 3:53–61. The birds' function is usually to maintain the streamers in their linear and parallel arrangement, because, when the streamers are horizontally out of position, the efficiency of the seismic data collection is compromised. *Id.* at 2:14–17. The most important task of the birds, according to the '967 patent, is to keep the streamers from tangling. *Id.* at 4:4–5.

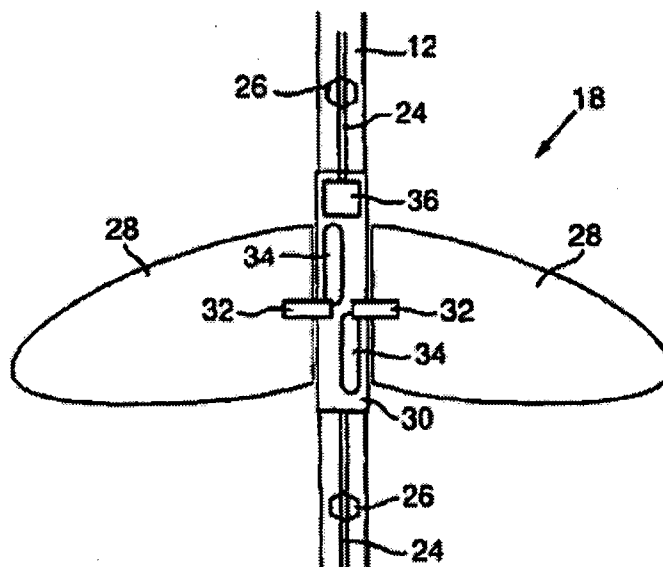
In order to obtain accurate survey data, it is necessary to control the positioning of the streamers, both vertically in the water column, as well as horizontally against ocean currents and forces, which can cause the normally linear streamers to bend and undulate and, in some cases, become entangled with one another. *Id.* at 1:42–2:25. As depicted by Figure 1, each streamer 12 is maintained in a generally linear arrangement behind the boat by deflector 16 which horizontally positions the end of each streamer nearest the vessel. *Id.* at 1:43–45. Drag buoy 20 at the end of each streamer farthest from the vessel creates tension along the streamer to maintain the linear arrangement.

Figure 1 also discloses global control system 22 positioned on vessel 10. The '967 patent states that "the control system for the birds 18 is distributed between a global control system 22 located on or near the seismic survey vessel 10 and a local control system located within or near the birds 18." *Id.* at 3:62–66.

The global control system 22 on the vessel can be connected to the vessel's navigation system to obtain various parameters "such as the vessel's towing direction and velocity and current direction and velocity, from the vessel's navigation system." *Id.* at 4:1-3.

Figure 2 of the '967 patent, reproduced below, illustrates a preferred embodiment of bird 18 as it relates to the described invention.

Fig.2.



As depicted by Figure 2 of the '967 patent, above, when the streamers are towed, birds 18 have wings 28 and are capable of controlling their own position, and hence the position of streamer 12, in both horizontal and vertical directions. *Id.* at 5:34-36.

In a preferred embodiment according to the '967 patent, the "global control system 22 monitors the actual positions of each of the birds 18 and is programmed with the desired positions of or the desired minimum separations between the seismic streamers 12." *Id.* at 4:22–25. The control system uses the desired and actual position of the birds to "regularly calculate updated desired vertical and horizontal forces the birds should impart on the seismic streamers 12 to move them from their actual positions to their desired positions." *Id.* at 4:37–40. The '967 patent further states that as part of the overall control system "global control system 22 preferably calculates the desired vertical and horizontal forces based on the behavior of each streamer and also takes into account the behavior of the complete streamer array." *Id.* at 4:54–57.

D. Illustrative Claims

Claim 4 is a method claim and is dependent upon claim 1. Claims 1 and 4, reproduced below, illustrate the claimed subject matter:

1. A method comprising:
 - (a) towing an array of streamers each having a plurality of streamer positioning devices there along, at least one of the streamer positioning devices having a wing;
 - (b) transmitting from a global control system location information to at least one local control system on the at least one streamer positioning devices having a wing; and
 - (c) adjusting the wing using the local control system.

4. The method as claimed in claim 1, wherein the global control system transmits a desired vertical depth for the at least one streamer positioning device and the local control system calculates magnitude and direction of the deviation between the desired vertical depth and actual depth.

Id. at 11:16–24, 37–41.

E. The Alleged Grounds of Unpatentability

Petitioner contends that the challenged claim is unpatentable on the following specific grounds.³

References	Basis	Claim Challenged
'636 PCT ⁴	§ 102	4
'636 PCT	§ 103	4

II. CLAIM CONSTRUCTION

A. Legal Standard

In an *inter partes* review, claim terms in an unexpired patent are interpreted according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *see also In re Cuozzo Speed Techs., LLC.*, 793 F.3d 1268, 1278–82 (Fed. Cir. 2015)

³ Petitioner supports its challenge with Declarations of Dr. Brian J. Evans, Ph.D. (Ex. 1002) (“Evans Decl.”) and Dr. Jack H. Cole, Ph.D. (Ex. 1003) (“Cole Decl.”). *See infra*.

⁴ Ex. 1004, WO 98/28636 (July 2, 1998).

("Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA," and "the standard was properly adopted by PTO regulation."), *cert. granted sub nom. Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 980 (mem.) (2016). Claim terms are given their ordinary and customary meaning as would be understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). If the specification "reveal[s] a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess[,] . . . the inventor's lexicography governs." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (en banc) (citing *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)).

If an inventor acts as his or her own lexicographer, the definition must be set forth in the specification with reasonable clarity, deliberateness, and precision. *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1249 (Fed. Cir. 1998). If a feature is not necessary to give meaning to what the inventor means by a claim term, it would be "extraneous" and should not be read into the claim. *Renishaw PLC*, 158 F.3d at 1249; *E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1433 (Fed. Cir. 1988). Only terms which are in controversy need to be construed, and then only to the extent necessary to resolve the controversy. *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

We apply these general rules in construing the claims of the '967 patent.

In our Decision to Institute, we construed two terms, determining that “local control system” means “a control system located on or near the streamer positioning devices,” and that a “streamer positioning device” is “a device that positions a streamer as it is towed.” Dec. on Inst. 9–10. Based on the full record developed during trial, we adopt those constructions for purposes of this Decision and provide construction for the following additional claim terms.

B. Global Control System

Patent Owner contends that the broadest reasonable interpretation of “global control system” is “a control system configured to *coordinate all streamer positioning devices* in the array.” PO Resp. 9 (emphasis added). Patent Owner argues that “[t]his construction is mandated by the claim language, specification, and the very purpose of the '967 invention.” *Id.*

Patent Owner asserts that the proper understanding of “global control system” is dependent on the ordinary meaning that the word “global” would impart to one of ordinary skill in the art. *Id.* Patent Owner initially points to an ordinary meaning from the MERRIAM WEBSTER DICTIONARY, defining “global” to mean “of, relating to, or constituting, an organic whole.” *Id.* (citing Ex. 2068). Based on this dictionary definition, Patent Owner contends that in the context of a seismic survey vessel towing “an array of streamers” as recited in claim 1, to a person of

ordinary skill in the art, “global” means “that the *entire* array of streamers was being controlled.”⁵ *Id.* (citing Ex. 2075 ¶ 88) (emphasis added). Patent Owner’s Declarant, Dr. Michael Triantafyllou, testifies also that

[m]y understanding of a “global control system” stems from the use of the word “global.” This term is specific. To a POSA, it means that the control system oversees and affects the entire system. It is aimed at *coordinated* control.

Ex. 2075 ¶ 88. In support of his testimony Dr. Triantafyllou points to the Specification of the ’967 patent for two examples of how coordinated control of the entire system can occur, e.g. by “delivering force values ‘as separate values for *each bird* 18 on *each streamer continuously* during operation of the control system,” (*Id.* (citing Ex. 1001, 5:20–23)); and also “that [t]he global control system 22 preferably calculates the desired vertical and horizontal forces based on the behavior of each streamer and also takes into account the behavior of *the complete streamer array*.” *Id.* (citing Ex. 1001, 4:54–57). Based on such examples from the Specification, Dr. Triantafyllou concludes that “global control system” is not merely control of the entire array of streamers, but that it is “a control system configured to *coordinate all streamer positioning devices* in the array.” *Id.* ¶ 90 (emphasis added).

⁵ All of the limitations of independent claim 1 are included in claim 4, as claim 4 is the only claim challenged in this proceeding.

We must take care when reading a patent specification to interpret and understand the claims and requisite claim language in light of the disclosure, while not inappropriately importing variations and specific embodiments into a claim interpretation. See *Superguide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004) (“Though understanding the claim language may be aided by the explanations contained in the written description, it is important not to import into a claim limitations that are not a part of the claim.”). The written description portions relied upon by Dr. Triantafyllou in support of Patent Owner’s claim construction are preferred embodiments and examples in the ’967 patent Specification explaining *how* to control the streamers. For example, the Specification states that “[i]n the *preferred* embodiment of the present invention, the global control system 22 monitors the actual positions of each of the birds 18.” Ex. 1001, 4:21–23 (emphasis added). Also, the ’967 patent describes that “[t]he global control system 22 *preferably* calculates the desired vertical and horizontal forces based on the behavior of each streamer.” *Id.* at 4:54–56 (emphasis added). The ’967 patent is replete with language and examples indicating alternative and exemplary embodiments, including the statement just prior to the claim listing that “[t]he present invention includes *any* novel feature or novel combination of features disclosed herein, either explicitly or implicitly.” *Id.* at 11:12–14 (emphasis added). “[W]hile . . . claims are to be interpreted in light of the specification and with a view to ascertaining the invention, it does not follow that limitations from the specification may be read into the claims.” *Comark Commc’ns, Inc. v. Harris*

Corp., 156 F.3d 1182, 1186 (Fed. Cir. 1998) (citation omitted). The use of the terms “preferably” and “preferred” in the above examples from the Specification indicates that complete control of every bird may be desired and accomplished by the preferred embodiment, but it does not persuade us that control of *less* than all birds is excluded. We find no description or evidence in the Specification, nor does Patent Owner point us to any language or evidence indicative of any intent, express or inherent, to limit the claimed invention to the preferred embodiments. See *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004) (“Even when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using ‘words or expressions of manifest exclusion or restriction.’”)

Accordingly, we are not persuaded that any of the exemplary embodiments from the specification or Dr. Triantafyllou’s interpretation based on such specific embodiments that allegedly “coordinate all streamer positioning devices” should be read into “global control system.” See Ex. 2075 ¶ 90.

It is also not clear from Dr. Triantafyllou’s testimony why one of ordinary skill in the art would limit the term global control system to “coordinate *all* streamer positioning devices in the array,” as propounded in Patent Owner’s claim construction. We are not apprised of any persuasive evidence in Dr. Triantafyllou’s testimony that *all* the SPD’s in the array must be coordinated in order to guide all the streamers and achieve a “global control system.” Dr.

Triantafyllou states in his Declaration that “[i]n the context of seismic surveying, a POSA would have understood that the global control system coordinated the control of the entire array of streamers.” Ex. 2075 ¶ 88. Dr. Triantafyllou further testified during his deposition that in certain cases *less* than all the SPD’s, and even less than all the streamers, would still be considered a global control system.

10 Q. Okay. Let’s say now you have a
11 streamer array and you’ve decided that you
12 don’t want to control one of the streamers in
13 the middle. Is that encompassed by your
14 definition of a global control system?
15 A. Depends. If you swear to God that
16 you’ll never use it and the like, I would have
17 to think about it. But in principle, yes,
18 because you have it there, you have a
19 controller controlling everything.

Ex. 1117, 148:10–19.

We find no persuasive reference or evidence in the Specification or the claim language, nor do we find persuasive Dr. Triantafyllou’s reliance on the preferred embodiments in the Specification, that the meaning of “global” would have been understood by one of ordinary skill in the art as restricted to coordination of *all* SPD’s in the array as Patent Owner’s construction currently reads. Moreover, the language of the claim itself does not support the understanding that *all* the streamer positioning devices in the array are controlled. A plain reading of claim 1 requires on each streamer “a plurality of streamer positioning devices,” but, by reciting further

the limitation of transmitting "location information to at least one local control system," it is clearly conveyed to the reader that not all the streamer positioning devices need be controlled.

We understand from the Specification, the claim language, and Dr. Triantafyllou's testimony that controlling all the streamer positioning devices on each streamer *would* facilitate control of the streamer array; however, we are not persuaded by the evidence in the record that control of all SPD's is a requirement of claim 1 imparted by the term "global control system." Accordingly, we do not construe "global positioning system" to require all streamer positioning devices to be controlled and we decline to adopt Patent Owner's construction. *See SuperGuide Corp.* at 875 ("a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment.").

We are also not persuaded to read the word "coordinate" as advocated by Dr. Triantafyllou into the claim construction. Ex. 2075 ¶¶ 88, 90. The word "coordinate" is not found anywhere in the Specification of the '967 patent with respect to relative control between all the streamers or all the SPD's. The Specification uses the phrase, "to coordinate control," only once, and only to describe a prior art "two-wing" SPD and its local control system.⁶ *See* Ex. 1001, 5:34-

⁶ This portion of the Specification states that "FIG. 2 shows a type of bird 18 that is capable of controlling the position of seismic streamers 12 in both the vertical and horizontal directions. A bird 18 of this type is also disclosed in our PCT International Application No. WO 98/28636." Ex. 1001, 5:34-38.

38, 6:10-14. Dr. Triantafyllou does not specifically define the word "coordinate," but uses it as essentially a more nuanced word than "control" to explain a "global control system." Ex. 2075 ¶ 88. Dr. Triantafyllou confirmed this during his deposition:

16 Q. Okay. And the point is that you
17 can -- if you -- is the point to try to control
18 them in a coordinated way so they're
19 consistently being controlled?
20 A. Yes.

Ex. 1117, 285:16-20. Dr. Triantafyllou's use of the word "coordinate[d]" is, however, based on the Specification examples and preferred embodiments in the '967 patent explaining how the streamers and SPD's are "continuously" controlled. See Ex. 2075 ¶ 88. Because, as discussed above, we do not read limitations from these preferred embodiments and examples in the Specification into the claims, we also are not persuaded that the term "coordinate" should be read into the claims as a substitute, or in addition to the word "control."

Nevertheless, we do not wholly discount Dr. Triantafyllou's testimony. Dr. Triantafyllou has over 40 years of experience in the field of marine vehicle dynamics and control. Ex. 2075 ¶ 1. He has a bachelor's degree in Naval Architecture and Marine Engineering, as well as a Master of Science and Mechanical Engineering, a Master's of Science in Ocean Engineering, and a Ph.D. in Ocean Engineering from MIT. *Id.* ¶ 2. Since 1979, Dr. Triantafyllou has been an MIT faculty member and professor, including Director of the Center for Ocean

Engineering at MIT, as well as a visiting research scientist at the Woods Hole Oceanographic Institute. *Id.* ¶¶ 3, 6, 9. Dr. Triantafyllou's testimony is entitled to certain weight. We are persuaded that one of skill in the art would understand that the term "global" is not entirely superfluous, but that it has some functional and structural meaning relative to "control system" as well as to the other structures, e.g., streamers and streamer positioning devices, recited in claim 1. Claim 1 requires "an array of streamers each having a plurality of streamer positioning devices . . . at least one of the streamer positioning devices having a wing" that can be adjusted by a local control system. Given that the plain meaning of the term "global" can relate to or apply to a whole, it is reasonable to understand a "whole" being the array of streamers" called for in the claims. *See* PO Resp. 10 (*citing* Ex. 2049). Following from this basic definition, Dr. Triantafyllou testifies that the word "global" modifies "control system" in such a way as to convey to one of skill in the art that "the control system oversees and affects the entire system." *See* Ex. 2075 ¶ 88. Dr. Triantafyllou explained further during his deposition when asked "What makes a global control system?"

13 A. The initial capability to control
14 anything, whether you want to apply it or
not,

Ex. 1117, 149:12-14. We are persuaded by Dr. Triantafyllou's testimony that not all the streamers, or SPD's, in an array must be controlled, but that the global control system must be capable of controlling all the streamers and all the SPD's that one would need, or want, to oversee in the array. *See id.* at 122:6-

11. Dr. Triantafyllou was definitive that all the SPD's could be controlled, but that one might choose, or not be able, to control all the SPD's and streamers in an array:

25 Q. Okay. Now, I want to discuss the

...

2 possibility where you have a streamer array
and

3 one of the birds is broken, so you can't

4 control it with the global controller. Is that

5 encompassed by your definition of a global

6 control system?

7 A. When you start having a global

8 control system, whether it broke later or not,

9 you have still a global control system.

Ex. 1117, 147:25–148:9. In other words, Dr. Triantafyllou testified that it is not necessary to control each SPD to retain the nature of a global control system being capable of overseeing and affecting the array.

Petitioner argues that “global control system” should be interpreted as the parties originally agreed, i.e., as “a control system that sends commands to other devices in a system (e.g., local control systems).” Pet. Reply 2, Pet. 25–26. Petitioner points out that the agreed-upon construction is the same construction promoted by Patent Owner in the underlying *ION* lawsuit and adopted in that proceeding by the district court. *Id.* (citing Ex. 1017, 16–19). Petitioner specifically contends that Patent Owner’s new construction is unreasonable because it improperly reads in limitations from the Specification and

requires the global control system to send commands to *all* the streamer positioning devices. *Id.* at 5.

Paragraph (b) of claim 1 recites:

(b) transmitting from a *global control system* location information to at least one local control system on the at least one streamer positioning devices having a wing;

Ex. 1001, 11:20–23 (emphasis added). First, on its face, a “global control system” is clearly a control system. We also know from the express language in claim 1 that the “global control system” is “transmitting” information to a local control system. We understand no substantive distinction, nor did the parties explain why any such distinction should be made, between the word “transmitting” and the word “sending” in the context of the global control system’s function. Also, instead of the word “information” as recited in the claim, the earlier proposed construction uses the word “command.” It is not explained why substitution of the term “command” in contrast to “location information” was reasonable under the broadest reasonable interpretation. The word “command” is found nowhere in the Specification of the ’967 patent. The Specification does explain in one embodiment that there are certain forces “that the global control system 22 has *instructed* the local control system to apply to the streamer 12.” Ex. 1001, 6:29–30 (emphasis added). However, in another embodiment the Specification states that “the global control system 22 can transmit location *information* to the local control system 36 instead of force

information.” *Id.* at 45–47 (emphasis added). We are not apprised of any reasoning, explanation, or evidence on this record that persuades us to supplant “information” with “command,” or that such a substitution provides further clarity to understanding the term “global control system.”

The claim next calls for “transmitting . . . information to at least one local control system on the at least one streamer positioning devices having a wing.” In comparison, the originally proposed claim construction sends commands “to other devices in a system (e.g., local control systems).” A “local control system” is understood as another device relative to the “global control system”; this is clear on the face of the claim. What this construction does, however, is merely state in words, the nature of what we already understand from the plain meaning of the claim and the term “comprising,” i.e., that the claim is not limited to sending information merely to a “local control system” but could send information to other “devices” not specifically recited in the claim. *In re Skvorecz*, 580 F.3d 1262, 1267–68 (Fed. Cir. 2009); *In re Crish*, 393 F.3d 1253, 1257 (Fed. Cir. 2004). The originally proposed claim construction is therefore, on this record, merely a restatement of the plain meaning of the claim language as currently recited in claim 1 and does not make any more clear for purposes of this proceeding the meaning of “global positioning system” under the broadest reasonable interpretation of that term.

Based on the Specification, claim language, and evidence on the complete record before us, we determine that, under the broadest reasonable

interpretation, and giving the words their plain and ordinary meaning consistent with the Specification, the “global control system” is “a control system capable of overseeing and affecting the array of streamers and streamer positioning devices.”

III. ANALYSIS

A. Claim 4 - Anticipation by the '636 PCT

To prevail on its patentability challenge, Petitioner must establish facts supporting its challenge by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). Petitioner asserts that claim 4 is anticipated by the '636 PCT under 35 U.S.C. § 102. Pet. 28–41; Pet. Reply 7–21. Patent Owner disagrees, and focuses its argument on distinguishing the claimed “global control system” from the control system disclosed in the '636 PCT; disputes that the '636 PCT discloses either a global, or remote control system; and contests Petitioner's reliance on the “remote control system” allegedly disclosed as prior art in the '636 PCT. PO Resp. 15–29.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. Inc., v. Union Oil Co.*, 814 F.2d 628, 631 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the . . . claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of

terminology is not required. *In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990).

[U]nless a reference discloses within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and, thus, cannot anticipate under 35 U.S.C. § 102.

Net MoneyIN, Inc. v. VeriSign, Inc., 545 F.3d 1359, 1371 (Fed. Cir. 2008).

1. Overview of the '636 PCT

The '636 PCT discloses a streamer positioning device, e.g. "a bird," for controlling the position of a marine seismic streamer as it is towed behind a boat in a streamer array. Ex. 1004, 2. Figure 1 of the '636 PCT, reproduced below, illustrates streamer control device 10 attached to seismic streamer 14. *Id.* at 3-4.

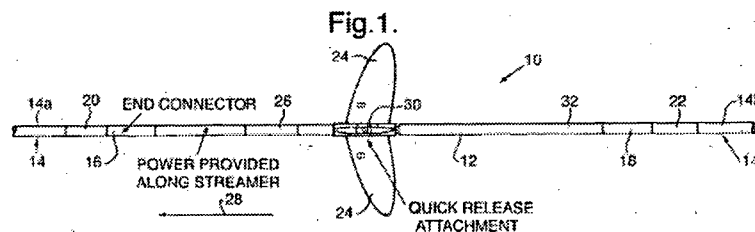
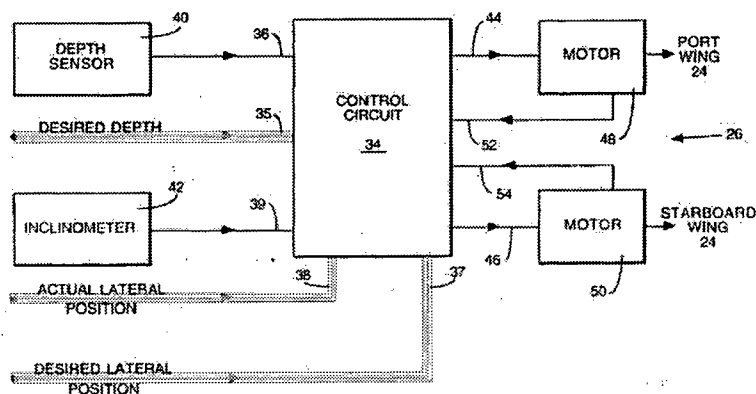


Figure 1 of the '636 PCT, above, illustrates bird 10 with wings 24 adjusted according to a control system and control circuit to move the bird, and hence the streamer, in both a vertical (up and down) and

lateral (left and right) direction, to achieve a desired position of the streamer in the water. *Id.* at 5-6.

The control system 26 disclosed by the '636 PCT is illustrated by annotated Figure 2, reproduced below, and includes control circuit 34 with inputs 35-39 for receiving signals indicating actual depth and lateral position (36, 38), as well as desired depth and desired lateral position (35, 37).

Fig.2.



As depicted diagrammatically by annotated Figure 2 of the '636 PCT, above, a depth sensor, typically mounted on the bird, provides an actual depth signal to control circuit 34. *Id.* at 5. The actual and desired lateral position signal as well as the desired depth signal, shown highlighted in yellow, are also received by control circuit 34 from an external position determining system (*id.*) to calculate and adjust, via stepper motors 48, 50, "the respective angular positions of the wings 24 which together will produce the necessary combination of vertical force (upwardly or downwardly) and lateral force (left or

right) required to move the bird 10 to the desired depth and lateral position.” *Id.* at 6.

2. Claims 1 and 4

Patent Owner’s position with respect to anticipation is focused on the main issue of whether the ’636 PCT discloses a “global control system” as recited in claim 1, in accordance with the proper claim construction of that term. PO Resp. 16, Reply 10–11. Patent Owner makes certain arguments that the ’636 PCT does not provide the necessary and sufficient disclosures to support anticipation of claims 1 and 4.

As an initial matter, Patent Owner argues that the ’967 patent “distinguishes the ’636 PCT by contrasting it with the claimed ‘global control system.” PO Resp. 22. In other words, Patent Owner argues the ’967 patent itself is proof that the ’636 PCT does not disclose a “global control system.” In the Background of the Invention, the ’967 patent describes the prior art ’636 PCT control system as including a “remote control system” and a “local control system” but does not expressly compare or contrast specifically the prior art “remote control system” to the claimed “global control system.” In context, however, how the ’967 patent distinguishes the disclosed system from the ’636 PCT is clear from the statement in the Specification that

[w]hile this [’636 PCT] type of system allows for more automatic adjustment of the bird wing angles, the delay period and the relatively long cycle time between position

measurements prevents this type of control system from rapidly and efficiently controlling the horizontal position of the bird.

Ex. 1001, 2:47–52. The '967 patent thus distinguishes the '636 PCT by asserting that the disclosed system can reduce the delay and cycle times between position measurements and is thus a faster and more efficient control system “to convert the measured vertical and/or horizontal displacements into corresponding forces to be applied by the birds 18.” *Id.* at 6:61–63.

Nonetheless, as noted by Petitioner, “whether the '636 PCT's control system is slower or less efficient [than the '967 patent's] is irrelevant, as the claims at issue do not contain any limitations directed to the global control system's speed or efficiency.” Pet. Reply 10. The proper construction of “global control system,” above, does not include such speed or efficiency parameters. Furthermore, mere criticism or distinguishing of a particular embodiment encompassed in the plain meaning of a claim term is not sufficient as clear disavowal of claim scope. *Epistar Corp. v. Int'l Trade Comm'n*, 566 F.3d 1321, 1335 (Fed. Cir. 2009) (holding that even a direct criticism of a particular technique did not rise to the level of clear disavowal). Patent Owner's position here does not persuade us that the '967 patent clearly demarcates between the elements and functions of the '636 PCT's “remote control system” as compared to the claimed “global control system.”

Next, Patent Owner argues that “the '636 PCT does not disclose any control beyond that taking place

within a local control system, let alone a *global* control system.” PO Resp. 23 (*citing* Ex. 2075 ¶¶ 98–99, 138). Although the ’636 PCT does not itself expressly recite a “remote control system,” it clearly states in reference to Figure 2 that “[t]he lateral position signals are typically derived from a *position determining system* of the kind described in our US Patent No 4,992,990 or our International Patent Application No[.]W09621163.” Ex. 1004, 5 (emphasis added). Without referring specifically to the noted ’990 patent or the ’163 PCT application, the described “position determining system” in the ’636 PCT is reasonably understood in context as distinct, or external, from local control system 26 shown in Figure 2.⁷ It is further reasonable, in the context of this description and Figure 2 annotated above, to understand that the inputs shown highlighted in yellow—desired depth 35, desired lateral position 37, and actual lateral position 38 received by local control system 26—are not acquired from the local control system 26 itself, but from the external “positioning determining system.” *Id.*

In any event, the ’967 patent, in context, clearly describes the ’636 PCT control system having a positioning determining system that is an external, “remote control system,” i.e., separated or spaced from a “local control system.” Ex. 1001, 2:38–44.⁸ Although

⁷ Patent Owner objects that the reference, U.S. Patent No 4,992,990 to Langeland et al., (“Langeland,” or “the ’990 patent”), is not properly incorporated by reference. PO Resp. 27–29. Because we do not rely on the ’990 patent for any part of our Decision, we do not address this argument.

⁸ The MERRIAM-WEBSTER ONLINE DICTIONARY provides an ordinary meaning of “remote” as “separated by an

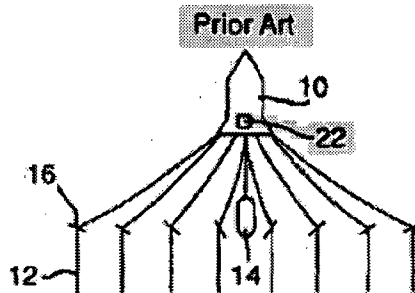
the '967 patent does not expressly equate the "remote control system" to the "position determining system" or describe the '636 PCT's control system 26 expressly as a "local control system," it is unclear to us on this record, given the '967 patent's express reference to the '636 PCT and a plain meaning of the word "remote," what else they would be. Accordingly, we are persuaded by the evidence that the '636 PCT discloses an overall distributive control system as described in the '967 patent where

the desired horizontal positions and the actual horizontal positions are received from a remote control system and are then used by a local control system within the birds to adjust the wing angles.

Id. at 2:40–44. Further supporting our determination, Figure 1 of the '967 patent, reproduced below in relevant part with annotations, is clearly labeled as "Prior Art" and includes reference number 22 positioned on vessel 10. The '967 patent describes element 22 as "a global control system 22 located on or near the seismic survey vessel 10." *Id.* at 3:63–65.

interval or space greater than usual." <http://www.merriam-webster.com/dictionary/remote> (last visited Feb. 29, 2016).

Fig. 1.



Annotated Figure 1 of the '967 patent, reproduced in relevant part above, illustrates as "Prior Art" vessel 10 towing streamers 12, and having "global control system 22" onboard the vessel. Ex. 1001, 3:66. Even if we make the assumption that the specific word "global" was unintentionally used in describing the "Prior Art," it is reasonable to understand from the '967 patent, given Figure 1 and the '636 PCT, that a different, external, or "remote" control system was known to be positioned on the towing vessel and in communication with a local control system with the bird. "By filing an application containing Figs. 1 and 2, labeled prior art, ipsissimis verbis, and statements explanatory thereof appellants have conceded what is to be considered as prior art." *Application of Nomiya*, 509 F.2d 566, 571 (CCPA 1975). Patent Owner also argues that because the '967 patent and the '636 PCT include the same inventor, Simon H. Bittleston, there is a presumption that "remote" and "global" are different terms that have different meanings. PO Resp. 22 (citing *Chicago Bd. Options Exch., Inc. v. Int'l Sec. Exch., LLC*, 677 F.3d 1361, 1369 (Fed. Cir. 2012)). These terms may to some extent have different meanings. However, in accordance with our claim

construction and our understanding of the '636 PCT as discussed above, the question before us is not whether these two terms have the same meaning, but specifically whether the "remote control system" disclosed in the '636 PCT is "a control system capable of overseeing and affecting the array of streamers and streamer positioning devices," as the proper claim construction requires. Anticipation does not require the same words be used to equate relevant elements from the prior art with particular limitations of a claim. These elements must be arranged as in the claim under review but this is not an *ipsissimis verbis* test. *In re Bond*, 910 F.2d at 832; see also *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716 (Fed. Cir. 1984) (while holding that a reference must disclose the entirety of the claimed subject matter to anticipate, the Federal Circuit acknowledged that the reference need not disclose the claimed subject matter in the same language used in the claim).

The '636 PCT describes that "[i]n order to perform a 3D marine seismic survey, a plurality of . . . streamers are towed at about 5 knots behind a seismic survey vessel," and that "control devices known as 'birds', attached to each streamer at intervals of 200 to 300 metres, are used." Ex. 1004, 1. It is unambiguous from this disclosure that marine seismic streamer systems were known to include a plurality of streamers, e.g., an array, and that each streamer could include a plurality of positioning control devices, e.g., birds spaced 200–300 metres apart along the streamer to control the streamers. It is further clear from the description and Figure 2 that the '636 PCT discloses bird 10 having wings 24 and

local control system 26 that receives certain signals from a remote control system that “enables the horizontal or lateral position of the streamer 14 to be controlled, and not just its depth.” *Id.* at 7.

We find that the '636 PCT discloses sufficiently to a person of ordinary skill in the art that each bird, or streamer positioning device in the seismic survey system can be controlled vertically as well as laterally by a distributed control system according to the remote and local control systems working in conjunction. It is simply not reasonable to read the '636 PCT reference as disclosing merely a single controlled bird or SPD, where the reference expressly discloses that it was known to use multiple SPD's for controlling multiple streamers in a towed seismic streamer array. *See id.* at 1; *see also* Ex. 1002 ¶ 113 (“The '636 PCT discloses that ‘control devices known as “birds”, attached to each streamer at intervals of 200 to 300 meters, are used.”). Furthermore, our understanding of the '636 PCT is consistent with the plain meaning of the '967 description, which explicitly describes multiple “birds” in the '636 PCT where “the desired horizontal positions and the actual horizontal positions are received from a remote control system and are then used by a local control system within the birds to adjust the wing angles.” Ex. 1001, 2:41–44.

Although the '636 PCT does not state expressly that its control system controls “all” birds, and “all” streamers in the array, one of skill in the art would draw a reasonable inference that where the remote control system controls one bird, it is capable of controlling each of the plurality of birds on each streamer, i.e., the entirety of the array. In his analysis

of the '636 PCT, Dr. Evans states that “[t]he '636 PCT thus discloses a distributed control system wherein the responsibility for streamer positioning was shared between a remote control system on the vessel and sophisticated local control systems located within *each streamer positioning device*.”⁹ *Id.* ¶ 70 (emphasis added). Dr. Evans’ experience and testimony demonstrates at least a level of ordinary skill in the art of marine seismic survey and data acquisition. We find his testimony to be persuasive evidence that one of ordinary skill in the art would understand that control systems disclosed in the '636 PCT are capable of controlling multiple birds or SPD’s throughout a streamer array. “A reference anticipates a claim if it discloses the claimed invention ‘such that a skilled artisan could take its teachings in *combination with his own knowledge of the particular art and be in possession of the invention*.’” *In re Graves*, 69 F.3d 1147, 1152 (Fed. Cir. 1995) (citing *In re LeGrice*, 301 F.2d 929, 936 (CCPA 1962)); see also *Sirona Dental Systems, Inc. v. 3M ESPE AG*, No. 2011-5021 (BPAI 2011) (“A person of ordinary skill in the art would have drawn a reasonable inference from this explicit teaching that while a white ceramic porous body is

⁹ Petitioner’s Declarant, Dr. Evans, has an undergraduate Electrical Engineering Degree, a Masters in Applied Physics, a Ph.D. in Geophysics, and is a professor of Professor of Geophysics in the Department of Petroleum Engineering at Curtin University in Bentley, Western Australia. Ex. 1002 ¶ 6, 12. Dr. Evans has over 40 years of marine seismic survey experience including designing dozens of seismic surveys and personally participated on board seismic survey vessels in over one hundred seismic surveys. *Id.* ¶ 4. Dr. Evans is also the author of, *A HANDBOOK FOR SEISMIC DATA ACQUISITION IN EXPLORATION*, published by the Society of Exploration Geophysicists. *Id.* ¶ 5.

preferred, JP '841 also discloses non-white ceramic porous bodies.”), *aff'd*. mem. (Fed. Cir. 2012).

Patent Owner next argues that “how the '967 *inventors* used an embodiment of the control device is not part of the actual '636 PCT's disclosure, nor is it prior art.” PO Resp. 23. This is not persuasive because it well settled that “[t]he use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain.” *In re Lemelson*, 397 F.2d 1006, 1009 (CCPA 1968), *see also Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772 (Fed. Cir. 1983) (What matters is whether all of the limitations of the claim are found in the reference, not whether the reference “teaches” what the subject application teaches.)

Even assuming the appropriate claim construction was limited to “all” streamer positioning devices, which it is not, this would not serve to distinguish the claimed invention from the '636 PCT. Given Dr. Evans' testimony, above, it is axiomatic that one of skill in the art could apply the control of a bird taught in the '636 PCT to any or all birds in the known seismic array system disclosed in the '636 PCT. Where each bird in a seismic array system can be controlled, then the system is capable of controlling each streamer having a bird, in an array consisting of a plurality of streamers. Thus, we determine that the '636 PCT's teachings result in “a control system capable of overseeing and affecting the array of streamers and streamer positioning devices,” as the term “global control system” is properly construed.

Apart from its position with respect to independent base claim 1, that the '636 PCT does not disclose a "global control system," Patent Owner further argues that claim 4 is not anticipated by the '636 PCT. See PO Resp. 34–37. Specifically, Patent Owner argues that the '636 PCT does not disclose "a global control system that sends a desired vertical depth for the streamer positioning device." *Id.* at 36. This is simply not persuasive because Figure 2 of the '636 PCT expressly illustrates an input 35 into the local control circuit 34 of the bird labeled "DESIRED DEPTH." Patent Owner argues further that there is no disclosure in the '636 PCT of "*calculating* the magnitude and direction of the deviation between the desired vertical depth and actual depth." *Id.* First, we are not persuaded by Patent Owner's argument because the '636 PCT explicitly states that "the control circuit 34 receives between its inputs 35 and 36 a signal indicative of the difference between the actual and desired depths of the bird 10." Ex. 1004, 6. Further, the '636 PCT disclosure states that:

These two difference signals are used by the control circuit 34 to calculate the roll angle of the bird 10 and the respective angular positions of the wings 24 which together will produce the necessary combination of vertical force (upwardly or downwardly) and lateral force (left or right) required to move the bird 10 to the desired depth and lateral position.

Id. Although Patent Owner is correct that the '636 PCT does not expressly state that the local control

“calculates *magnitude* and *direction* of the deviation” for depth control of the bird as recited in claim 4 (emphasis added), Patent Owner fails to explain how the roll angle and angular positions of the wings could be determined without “a magnitude and direction of the deviation.” We understand “deviation” simply as the “difference” between the actual and desired depth, and unless the difference has a value of 0, a magnitude value inherently exists along with a vector direction, i.e., up or down. Our understanding is corroborated by Petitioner’s expert, Dr. Evans, who states that from the difference between the desired and actual depths “[t]he system could not calculate and apply the desired force without knowledge of the direction in which the force must be applied.” Ex. 1002 ¶ 141. Moreover, Dr. Triantafyllou, Patent Owner’s expert, also agreed during his deposition that the ’636 PCT discloses this limitation of claim 4:

8 Q. Okay. So the control circuit’s the
9 one doing that calculation of the magnitude
and
10 the direction of the deviation between the
11 actual and the desired depths; is that right?
12 A. Yes.
13 Q. Okay. And that’s reflected – that’s
14 what you understand from what you see in
figure
15 2; is that right?
16 A. Yeah.

Ex. 1117, 306.

We have reviewed each of claims 1 and 4 in light of the ’636 PCT and in accordance with our

analysis above find that Petitioner's arguments and evidence presented in the Petition and Reply demonstrate by a preponderance of the evidence that each limitation of claims 1 and 4 is disclosed and taught by the '636 PCT.

B. Claims 1 and 4 - Obviousness in view of the '636 PCT

Patent Owner contends that our Decision to Institute did not provide legally sufficient obviousness analysis and "fails to apprise Patent Owner of the specific ground of unpatentability that is the basis for this trial." PO Resp. 34-35 (citing *In re Zurko*, 258 F.3d 1379, 1386 (Fed. Cir. 2001), *In re Vaidyanathan*, 381 Fed. App'x. 985, 994 (Fed. Cir. 2010), and *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1330 (Fed. Cir. 2009)). Specifically, Patent Owner argues that "[t]he obviousness case is now a moving target, with Patent Owner left in the dark as to what features the Board considers missing from the '636 PCT, but that would be obvious in view of the level of ordinary skill in the art." *Id.* at 35-36.

It is well settled that novelty under 35 U.S.C. § 102 and nonobviousness under 35 U.S.C. § 103 are separate conditions of patentability. See *Cohesive Techs., Inc. v. Waters Corp.*, 543 F.3d 1351, 1363 (Fed. Cir. 2008).

The tests for anticipation and obviousness are different. *Cohesive*, 543 F.3d at 1364. Obviousness generally requires an analysis under the *Graham* factors. *Id.* In the instant case, however, we agree with Petitioner that the '636 PCT, as a standalone

reference discloses all of the limitations of claims 1 and 4, including a “global control system” as construed above. In other words, there is no element of claims 1 and 4 missing from the '636 PCT as discussed above in relation to anticipation that necessitates modification, additional rationale, or articulated reasoning.

The '636 PCT is relied upon as the sole reference for both anticipation and obviousness grounds and is directed to the same field of endeavor seeking to solve the same, or similar problem of controlling birds, i.e. SPD's, in a towed seismic survey array as in the '967 patent. Accordingly, this case is particularly appropriate for application of the maxim that anticipation is the epitome of obviousness. *Fracalossi*, 681 F.2d 792, 794 (CCPA 1982).

We have considered Patent Owner's arguments, but are persuaded for the reasons and evidence set forth by Petitioner in the Petition that claim 4 would have been obvious over the '636 PCT. We turn now to Patent Owner's evidence and arguments relating to secondary considerations of non-obviousness.

C. Secondary Considerations of Non-Obviousness

Evidence showing objective indicia of nonobviousness constitutes “independent evidence of nonobviousness.” *Mintz v. Dietz & Watson, Inc.*, 679 F.3d 1372, 1378 (Fed. Cir. 2012) (quoting *Pressure Prods. Med. Supplies, Inc. v. Greatbatch Ltd.*, 599 F.3d 1308, 1319 (Fed. Cir. 2010)). Evidence of

secondary considerations of non-obviousness, when present, must always be considered en route to a determination of obviousness. *Cyclobenzaprine Hydrochloride Extended-Release Capsule, Patent Litig.*, 676 F.3d at 1075–76; *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538–39 (Fed. Cir. 1983). Whether before the Board or a court, consideration of objective indicia is part of the whole obviousness analysis, not just an afterthought. See *Leo Pharm. Prods., Ltd. v. Rea*, 726 F.3d 1346, 1358 (Fed. Cir. 2013).

Patent Owner has proffered certain evidence of secondary considerations. PO Resp. 41–47. The factual inquiries for obviousness include secondary considerations based on evaluation and crediting of objective evidence. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). However, to accord substantial weight to objective evidence requires the finding of a nexus between the evidence and the merits of the claimed invention. *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995); see also *In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996) (“[S]uccess is relevant in the obviousness context only if there is proof that the sales were a direct result of the unique characteristics of the claimed invention.”). “Nexus” is a legally and factually sufficient connection between the objective evidence and the claimed invention, such that the objective evidence should be considered in determining nonobviousness. *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988). The burden of showing that there is a nexus lies with the patent owner. *Id.*; see *In re Paulsen*, 30 F.3d 1475, 1482 (Fed. Cir. 1994).

Patent Owner contends that certain evidence from the *ION* lawsuit and from the Declaration of Robin Walker, (Ex. 2099), Patent Owner's former Vice President of Sales and Marketing Director, establishes a long-felt need and commercial success of the patented inventions. PO Resp. 43 (citing Exs. 2099 ¶¶ 10–36; 2101, 3; 2108, 20). Specifically, Patent Owner argues that “the record evidence from the *ION* litigation . . . establishes the long-felt need for and commercial success of the patented inventions, as well as initial industry skepticism followed by praise once the inventions were commercialized.” *Id.*

1. Commercial Success and Long-Felt Need

Patent Owner argues that Q-Marine, the WesternGeco Product that purportedly embodies the inventions recited in the claims of the '967 patent, was commercially successful because it “met the long-felt, previously unsatisfied need for closer streamer spacing without the risk of tangling, elimination or reduction of costly infill, faster turn times, and better, more frequent 4D surveys through its use of array-level lateral steering enabled by the patented inventions.” PO Resp. 43 (citing Ex. 2099 ¶¶ 10–36; Ex. 2101, 3; Ex. 2108, 20). Patent Owner's evidence includes the Declaration testimony of Mr. Robin Walker, who testifies that:

In August 2000, WesternGeco launched the Q-Marine system, its commercial embodiment of the Bittleston patents and the first lateral steering system on the market. Through its provision of WesternGeco's patented lateral steering

technology, Q-Marine satisfied a significant, previously unmet need in the industry for better quality data and more cost-effective surveys by offering numerous benefits.

Ex. 2099 ¶ 12. We understand from Mr. Walker's testimony that the Q-Marine's benefits result in "better quality data and more cost-effective surveys," and that these benefits derive from "WesternGeco's patented lateral steering technology," as stated by Mr. Walker. *Id.* This evidence tends to show that the industry was interested in products that could achieve improved or better data acquisition, and perhaps understood that lateral steering of the birds and streamers helped achieve improved data. However this evidence is not sufficiently linked to the claim at issue. Claim 4 relates specifically to *vertical* depth control of the bird and streamer, not lateral control. Claim 4 bears repeating:

4. The method as claimed in claim 1, wherein the global control system transmits a desired vertical depth for the at least one streamer positioning device and the local control system calculates magnitude and direction of the deviation between the desired vertical depth and actual depth.

Ex. 1001, 11:37-41.

Mr. Walker's testimony, above, with respect to lateral steering being the patented aspect of Q-Marine which drove sales, is not persuasive as it pertains to claim 4 and vertical control of a bird.

Indeed, to the extent lateral control is asserted as a novel aspect of the claimed invention with respect to any claims in the '967 patent, such evidence is contradicted by Dr. Simon R. Bittleston, one of the named inventors of the '967 patent, who testified in the underlying *ION* lawsuit that he did not invent laterally steered, towed devices, but a "global control system":

Q: So any statement that you invented lateral steering is just wrong?

A: Yes. I am not the inventor of laterally steering. I'm an inventor of a global control system.

Ex. 2083, 91.¹⁰ We are not persuaded by Patent Owner's arguments or evidence that the laterally steerable Q-Marine product satisfied a long-felt, or unmet need leading to commercial success because lateral steering was apparently already known in the industry, and also because neither claim 4, nor independent claim 1 from which it depends, contains any limitation or recitation with respect to lateral steering. Consequently, we accord very little weight to Mr. Walker's testimony and the other evidence pertaining to the alleged benefits of lateral steering with respect to supplying the required nexus for long-felt need and commercial success. Keeping Dr. Bittleston's testimony, above, in mind, we determined in our claim construction that a "global control system" is "a control system capable of overseeing and

¹⁰ We cite the page numbers provided by Patent Owner here, not the original page numbers.

affecting the array of streamers and streamer positioning devices.” The broadest reasonable interpretation of “global control system” is not limited to the inclusion of lateral steering. It may be that the Q-Marine product can be laterally steered and provides a better, faster, more reliable and even commercially successful 4D survey, but the contested claim does not contain any such limitation and any commercial success enjoyed by the Q-Marine product is relevant *only* if the challenged claim is shown to embody those products. Patent Owner’s evidence that Q-Marine was successful due to lateral steering has not made out that critical showing. *See In re DBC*, 545 F.3d 1373, 1384 (Fed. Cir. 2008) (finding no nexus, absent evidence that “the driving force behind [the allegedly successful product’s sales] . . . was the claimed combination”); *Ormco Corp. v. Align Techn. Inc.*, 463 F.3d 1299, 1311–12 (Fed. Cir. 2006) (requiring a “nexus between the claimed invention and the commercial success”); *Huang*, 100 F.3d at 140 (requiring proof that sales were a “direct result of the unique characteristics of the claimed invention”).

To the extent that Patent Owner is relying on commercial success apart from long-felt need by alleging “billions of dollars in revenue,” (PO Resp. 44 (citing Ex. 2009 ¶ 51)), a patentee demonstrates commercial success by showing significant sales of the patented product in a relevant market. *J.T. Eaton & Co., Inc. v. Atlantic Paste & Glue Co.*, 106 F.3d 1563 (Fed. Cir. 1997). Mr. Walker testifies mainly that such sales and “commercial success is due to WesternGeco’s patented lateral steering technology, specifically the predictive and global control and ability to target and implement modes to control separations, feather and

turns.” Ex. 2099 ¶ 52. Patent Owner does not explain why billions of dollars of Patent Owner’s sales alone, without accompanying market share data, constitutes commercial success. It is well established that absolute sale numbers without market share data does not establish commercial success. *See, e.g., Huang*, 100 F.3d at 140. Neither Mr. Walker, nor Patent Owner’s Response discusses or presents market share information.

We give very little weight with respect to nexus based on Mr. Walker’s testimony. Neither claim 1 or 4 includes such a lateral steering limitation, nor does the proper interpretation of “global control system” require lateral steering or specific modes, predictive or otherwise, and Patent Owner has not proven that the sales were a direct result of the unique characteristics of the invention, and not a result of economic and commercial factors unrelated to the quality of the patented subject matter. *In re Applied Materials, Inc.*, 692 F.3d 1289, 1299–1300 (Fed. Cir. 2012). Consequently, Patent Owner has not produced sufficient evidence, including persuasive fact, data, or analysis that links the asserted commercial success of the Q-Marine product to the claim at issue.

2. Industry Praise

Patent Owner lists numerous documents purportedly evidencing significant industry praise for the claimed invention. PO Resp. 44–45 (citing Exs. 2111, 2; 2129, 1; 2130, 2; 2122; 2135, 1–2; 2113, 26; 2114; 2115, 2; 2109, 1; 2110, 7; 2116, 1–2; 2112, 3; 2120, 10; 2125, 4113:23–4114:24). We find this evidence as a whole also relates to the feature of

lateral steering of the Q-Marine product. For example, Patent Owner refers to trial testimony in the *ION* lawsuit from Kenneth Williamson, a senior vice president of GeoVentures Group, a business unit of ION, who was formerly an employee of WesternGeco:

Q. Some oil companies, while you were at WesternGeco, would have attributed the highest value to Q-Marine's lateral steering capabilities, correct?

A. Yes. . . .

Q. And you recall that Statoil selected WesternGeco for that survey because of Q-marine's lateral steering capabilities?

A. In that case, yes.

Ex. 2125, 4113:23–4114:24. The evidence presented by Patent Owner of industry praise relating to the lateral steering capabilities of the Q-Marine product is for an unclaimed feature not present in claim 4 and does not persuade us that Patent Owner has supplied the required evidence of nexus tying industry praise for the Q-Marine product to the invention recited in claim 4.

Having considered it, Patent Owner's evidence of long-felt need, commercial success, and industry praise does not outweigh the strong showing of obviousness made out by Petitioner in view of anticipation by the '636 PCT. See *Sud-Chemie, Inc. v. Multisorb Techs., Inc.*, 554 F.3d 1001, 1009 (Fed. Cir. 2009) ("evidence of unexpected results and other

secondary considerations will not necessarily overcome a strong prima facie showing of obviousness”). Patent Owner has not established a sufficient nexus between the claimed features of the ’967 patent at issue here and the alleged commercial success of the Q-Marine product. Accordingly, the alleged commercial success of the Q-Marine product does not support a conclusion of nonobviousness of the challenged claims in this case.

D. Time Bar under 35 U.S.C. § 315(b)

Patent Owner makes several arguments in support of its position that the PGS IPR is time-barred under 35 U.S.C. § 315(b) because PGS is a privy of ION Geophysical Corporation (“ION”) and because ION is an unnamed real party in interest (“RPI”). PO Resp. 47–58. We address each of Patent Owner’s arguments below.

1. Privity Under 35 U.S.C. § 315(b)

Under 35 U.S.C. § 315(b), institution of an *inter partes* review is barred “if the petition requesting the proceeding is filed more than 1 year after the date *on which the petitioner, real party in interest, or privy of the petitioner is served with a complaint alleging infringement of the patent*” (emphasis added). We note that “[t]he notion of ‘privy’ is more expansive, encompassing parties that do not necessarily need to be identified in the petition as a ‘real party-in-interest.’” Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,759 (Aug. 14, 2012) (“Practice Guide”). “Privy is essentially a shorthand statement that collateral estoppel is to be applied in a given case . . .

. The concept refers to a relationship between the party to be estopped and the unsuccessful party in the prior litigation which is sufficiently close so as to justify application of the doctrine of collateral estoppel." *Id.* (quoting 154 Cong. Rec. S9987 (daily ed. Sept. 27, 2008) (statement of Sen. Kyl)).

Patent Owner contends that Petitioner and ION are privies and thus Petitioner is time-barred because ION was served with a complaint alleging infringement of the '967 patent more than four years before the petition was filed. PO Resp. 51. Patent Owner contends specifically that PGS is a privy of ION because PGS asked ION to develop, and now purchases, the allegedly infringing DigiFin product from ION under a contractual agreement. *Id.* Patent Owner asserts that Petitioner and ION are privies because PGS and ION have a cooperative relationship in the underlying *ION* lawsuit and this IPR due to an indemnification agreement. *Id.* at 57. Patent Owner further alleges that PGS appeared in the *ION* lawsuit, and this, in addition to the assertion of a common interest privilege with respect to their communications in the *ION* lawsuit, establishes privity. *Id.* at 53–54.

It is undisputed that service was effected on ION as a defendant in the *ION* lawsuit on June 12, 2009, alleging infringement of the '967 patent more than one year before the petition was filed. Patent Owner also filed a similar complaint against a company called Fugro, a customer of ION, which was consolidated with the *ION* lawsuit. On December 8, 2009, remarking that Petitioner may have been involved in the design and testing of the *ION*

products, Patent Owner provided Petitioner via email with a copy of the complaint against ION. *Id.* at 52 (citing Ex. 2008). Subsequently in the *ION* lawsuit, Patent Owner subpoenaed Petitioner on January 22, 2010 to produce documents and evidence relating *inter alia* to Petitioner's use and operation of ION's DigiFIN product. *Id.* (citing Ex. 2009). Patent Owner argues that "once entering an appearance, PGS was actively involved with the case," and "consistently communicated with ION's in-house counsel." *Id.* (citing Exs. 2015, 2016).

We are not persuaded that communications between PGS and ION in the *ION* litigation, based on a subpoena filed by Patent Owner, is persuasive of privity. The email communications relied upon by Patent Owner, Exhibits 2015 and 2016, indicate (1) that ION desired to depose certain PGS employees (Ex. 2015), and (2) that ION suggested to PGS counsel (Ex. 2016) that certain public trial testimony and expert reports from the *ION* lawsuit might be helpful for PGS to understand WesternGeco's and ION's positions in the lawsuit. The employee deposition communication is simply an arms-length, although cordial, negotiation between different companies, to make certain employees available for deposition. *See* Ex. 2015. In fact, ION's counsel concedes that there were procedural difficulties between ION and PGS in deposing PGS employees. *See id.* Furthermore, apart from citing to this email, Patent Owner provides no explanation as to why this communication is indicative of duplicitous collusion on the part of either PGS or ION that would be any basis or evidence of privity. *See* PO Resp. 52–53. Patent Owner similarly provides no explanation as to why a fairly simple

email exchange between ION and PGS counsel regarding the start time of an expert's public trial testimony is a basis for privity. *See id.* (citing Ex. 2016).

Patent Owner also believes its allegations of privity are supported by a "common interest privilege" asserted by PGS and ION. PO Resp. 53 (citing Ex. 2028). The nature of shared interests in invalidating the '967 patent, undertaking a joint defense and assertion of a common interest privilege does not, without more, indicate privity between Petitioner and ION. *See Practice Guide*, 77 Fed. Reg. at 48,760:

[I]f Party A is part of a Joint Defense Group with Party B in a patent infringement suit, and Party B files a PGR petition, Party A is not a 'real party-in-interest' or a 'privy' for the purposes of the PGR petition based solely on its participation in that Group.

Collaboration, by itself, is not evidence that ION has any involvement either by way of control or funding the filing of this Petition.

There is nothing surreptitious about separate entities, as either third parties or separate parties to a legal action, proclaiming shared interests to protect communications that are relevant to advance the interests of the entities possessing the common interest. *See In re Regents of Univ. of Cal.*, 101 F.3d 1386, 1389 (Fed. Cir. 1996) ("The protection of communications among clients and attorneys 'allied in a common legal cause' has long been recognized.") (quoting *In re Grand Jury Subpoena Duces Tecum*,

406 F.Supp. 381, 386 (S.D.N.Y. 1975)). The simple fact that Petitioner and ION have a desire, and common interest, in invalidating the '967 patent and other WesternGeco patents, and have collaborated together, and invoked a common interest privilege, does not persuade us that ION has the ability to control, direct, or fund, the District Court or this IPR proceeding.

A common criteria in determining privity is that of control. For our purposes here, a relevant question is: does the evidence presented by Patent Owner display sufficient exercise of control by ION over PGS? Case law reveals that there must be more than just general communication and a shared interest. *Taylor v. Sturgell*, 553 U.S. 880, 906 (2008) (“A mere whiff of ‘tactical maneuvering’ will not suffice; instead, principles of agency law are suggestive. They indicate that preclusion is appropriate only if the putative agent’s conduct of the suit is subject to the control of the party who is bound by the prior adjudication.”)

With respect to the ability to control, the Board has issued decisions determining based on evidence of control that a non-party entity is a real party-in-interest. See *Zoll Lifecor Corp. v. Philips Elecs. N. Am. Corp.*, Case IPR2013-00609 (PTAB Mar. 20, 2014) (Paper 15) (the “Zoll Decision”). In the *Zoll Decision*, the Board was persuaded that an unnamed party to the IPR, Zoll Medical, exercised consistent control over Zoll Lifecore for over six years, including control of the *inter partes* review. *Id.* at 11. Specific evidence of control included Zoll Lifecor’s acknowledgment that Zoll Medical controlled 100% of Zoll Lifecor and approved Zoll Lifecor’s corporate budget and plans. *Id.*

Other evidence of control included the fact that common counsel for Zoll Medical and Zoll Lifecor would not state affirmatively that counsel did not provide input into preparation of the IPRs. *Id.* at 11–12. Additional evidence showed that only Zoll Medical’s management team attended court-ordered mediation in the underlying district court litigation filed against Zoll Lifecor. *Id.* at 12. These factors also are relevant for the determination of privity. *See ARRIS Group, Inc. v. C-Cation Techs., LLC*, Case IPR2014-00746, slip op. at 8–10 (PTAB Nov. 24, 2014) (Institution Decision, Paper 22). A “common consideration” in determining whether a non-party is in privity with a litigant is “whether the non-party exercised or could have exercised control over a party’s participation in a proceeding.” *Id.* (citing *Taylor*, 553 U.S. at 895).

We have been apprised of no such evidence of control, or ability to control by ION in this proceeding, the District Court proceeding, or any other proceeding. ION and Petitioner are not related corporate entities, but related as purchaser (Petitioner) and manufacturer (ION) of ION’s DigiFIN product. *See generally* Exs. 2002, 2006. By way of background, based on a request in October 2000 from PGS, ION provided to PGS a written proposal to develop a “Next Generation Streamer Positioning System.” Ex. 2002. In May 2006, ION and Petitioner executed a “Launch Partner Agreement,” that specified a 60 day “beta test” procedure where ION would supply the DigiFin product and Petitioner would supply the ocean going survey vessel to conduct the beta test. Ex. 2006. Patent Owner’s mere reference to these documents is not, without more,

persuasive evidence of control of the *ION* lawsuit or the PGS IPR. *See* PO Resp. 51–52. For example, the “Launch Partner Agreement” is simply evidence of a purchaser-manufacture relationship with Petitioner (PGS) and ION collaborating on an initial field “beta test” of the DigiFin product. *See* Ex. 2006.

Patent Owner next points to deposition testimony from the *ION* lawsuit of ION employee John Thompson that it contends establishes privity. PO Resp. 52. The confidential deposition evidence of John Thompson (Ex. 2059), and a related email and press release (Exs. 2060, 2061) relied upon by Patent Owner establish that ION informed Petitioner in June 2009, and also apparently the entire U.S. industry via the press release, about the existence of the *ION* lawsuit. *See* Exs. 2059, 38:20–39:8; 2060:2061. Thompson’s email to Petitioner contained a copy of the press release and indicates that ION issued the press release in the U.S. June 22, 2009. Exs. 2060, 2061. Referring to the press release, Mr. Thompson stated: “This sums up our current position with regard to the filing by WesternGeco and our subsequent lawsuit filed against them. We will obviously keep PGS advised of any further developments.” Ex. 2060. Patent Owner cites Mr. Thompson’s statement in their Response, but provides no analysis or explanation as to why such a statement shows privity. It is entirely reasonable, and understandable, that the manufacturer of DigiFin inform its customers of a lawsuit impugning the DigiFin product. We are not persuaded, therefore, that this email is evidence of control or privity between PGS and ION or anything other than a normal purchaser-manufacturer relationship.

Patent Owner further alleges that ION is obligated to indemnify Petitioner, and thus is a privy with Petitioner because of an indemnification provision in the 2008 Master Purchase Agreement (Ex. 2057) between PGS (Petitioner) and [REDACTED], an ION subsidiary. PO Resp. 54. Patent Owner argues that the indemnification provision “unequivocally obligates ION [REDACTED] to indemnify PGSAS from any claim by third parties regarding breach of patent rights and grants unilateral control to ION [REDACTED].” *Id.* In its Response, Patent Owner provided the following annotated excerpt from the indemnification provision:

[REDACTED]

[REDACTED]

Id. (citing Ex. 2057, 14 (emphasis added)). We reproduce below the entire provision, including the bulleted options left out by Patent Owner, as we believe they aid in understanding the provision as a whole.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]

Ex. 2057, 14.

Patent Owner contends that Petitioner invoked this indemnification provision in its letter of November 13, 2012 to ION citing the above indemnification provision and stating [REDACTED]

[REDACTED]

Ex. 2027. From this letter, and the Agreement, Patent Owner summarily concludes that ION's obligations are "defending against an infringement lawsuit, proving the invalidity of a patent in a review proceeding, and obtaining a license." PO Resp. 55.

We do not agree that the bulleted provisions above extend ION's rights or obligations as far as Patent Owner asserts. Nowhere in the asserted provision of the Agreement does it state that [REDACTED] (ION) has the right, or obligation, to *defend a lawsuit*,

control litigation, or undertake any type of invalidity proceedings such as the District Court proceeding or the present IPR. We agree with Patent Owner that a reasonable interpretation of the indemnification provision, above, could include [REDACTED]. *Id.* at 55. There is, however, no express language or evidence that Patent Owner points to that persuades us to interpret the language of the indemnification provision as requiring ION to “defend[] against an infringement lawsuit,” and thus extend the provision to include a specific obligation to defend, or pay for, a lawsuit filed against Petitioner or to undertake an IPR proceeding on Petitioner’s behalf. Certainly, ION has every right to defend itself against an infringement lawsuit, or file its own IPR; however no reasonable reading of the language pointed to by Patent Owner obligates ION to do the same for Petitioner.

Indeed, there is insufficient evidence in the record that Petitioner ever contemplated or requested ION to defend a lawsuit or file an invalidity proceeding on its behalf. Petitioner’s letter of November 13, 2012 to ION does not actually “invoke” any specific remedy or refer to any necessity for ION to step in and defend a lawsuit; Petitioner’s letter requests generally [REDACTED]. *See Ex. 2027.* In fact, a previous email sent July 6, 2012 [REDACTED], is consistent with the indemnification provision in the Agreement and also does not specify or imply any obligation on the part of ION to defend PGS from a lawsuit, reimburse or pay for a lawsuit, or file an invalidity proceeding. *See Ex. 2022.* [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Id.

This evidence does not persuade us that ION has an obligation to step in and defend Petitioner against a lawsuit or to otherwise pay for the defense of a lawsuit and advance Petitioner as ION's proxy. "The mere existence of an indemnification agreement

does not establish that the indemnitor has the opportunity to control an inter partes review.” *Nissan North America, Inc. v. Diamond Coating Techs., LLC*, Case IPR2014-01546, slip op. at 7 (PTAB Apr. 21, 2015) (Paper 10) (determining that the existence of an indemnification agreement was not sufficient to establish that the unnamed parties were real parties-in-interest to the *inter partes* review proceeding); see also *Arris Group, Inc. v. C-Cation Tech., LLC*, Case IPR2015-00635, slip op. at 9–12 (PTAB July 31, 2015) (Paper 19) (determining fact that “indemnification claims were made according to the provisions of the [indemnification] Agreements” was not sufficient to show control over the district court proceedings such that a party was in privity with the Petitioner).

The evidence shows that Petitioner and ION had a contractual and fairly standard customer-manufacturer relationship with respect to DigiFin. See Exs. 2002, 2022, 2027, 2057, 2060, 2061. Indeed, the [REDACTED] and communications between [REDACTED] reveals a cordial, but arms-length negotiation over potential remedies, none of which were articulated by either ION or PGS as requiring ION to defend PGS in a lawsuit or file an IPR. The relationship evidence relied upon by Patent Owner shows that ION and Petitioner at times shared publically available information and trial witness times regarding the *ION* lawsuit, and had discussed the availability of witnesses for deposition. Exs. 2015, 2016. But this is not shared legal advice, nor does it truly rise to the level of strategic collaboration in this case. We are not persuaded that this is sufficient evidence of control or ability to control to establish privity.

Patent Owner argues, based on this evidence that “the parties’ strong relationship throughout the litigation makes them privies.” PO Resp. 54. Patent Owner has not, however, explained sufficiently why, or how, the evidence of ION and PGS’s relationship before, or during the *ION* lawsuit, is indicative of control. The weight of this evidence bears more heavily towards a finding that the relationship was contractual, a fairly conventional purchaser-manufacturer relationship, with discussions and communications undertaken generally at arms-length. Further, although PGS’s and ION’s dealings during the *ION* lawsuit may be indicative of cooperation to an extent, neither the evidence of cooperation or collaboration in a joint defense is sufficient on this record to render ION and Petitioner privies.

Accordingly, Patent Owner has not provided a sufficient factual basis upon which to conclude that Petitioner and ION are privies.

2. *Whether ION is an Unnamed RPI Under 35 U.S.C. § 315(b)*

The statute governing *inter partes* review proceedings sets forth certain requirements for a petition for *inter partes* review, including that “the petition identif[y] *all* real parties in interest.” 35 U.S.C. § 312(a) (emphasis added); *see also* 37 C.F.R. § 42.8(b)(1) (requirement to identify real parties in interest in mandatory notices). The Office Patent Trial Practice Guide explains that “[w]hether a party who is not a named participant in a given proceeding nonetheless constitutes a ‘real party-in-interest’ . . . to

that proceeding is a highly fact-dependent question.” 77 Fed. Reg. at 48,759. The Practice Guide further states that:

However, the spirit of that formulation as to IPR and PGR proceedings means that, at a general level, the “real party-in-interest” is the party that desires review of the patent. Thus, 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.

Id. (emphasis added). The determination of whether a party is an RPI is a “highly fact-dependent question” (*id.*), in which the focus is on the party’s relationship to the *inter partes* review pending before the Board, and the degree of control the party can exert over the proceeding. See *Aruze Gaming Macau, Ltd. v. MGT Gaming, Inc.*, Case IPR2014-01288, slip op. at 11 (PTAB Feb. 20, 2015) (Paper 13). “[I]f a nonparty can influence a petitioner’s actions in a proceeding before the Board, to the degree that would be expected from a formal copetitioner, that nonparty should be considered an RPI to the proceeding.” *Id.* at 12.

Patent Owner asserts in its Response that ION is a real party-in-interest under the factors set forth in our Practice Guidelines because (a) Petitioner invoked ION’s indemnity obligations by notifying ION that Petitioner expected ION to fulfill its obligations and pay for the lawsuit and this IPR proceeding; (b) ION was obligated to pay for this IPR and was instrumental in developing invalidity theories, thus, giving ION an “interest, opportunity to control, and active control over the Petition[;]” and (c) Petitioner is

ION's proxy due to ION's obligation under the indemnification agreement. PO Resp. 56.

Although it does not cite to it in the relevant section IV. D. of its Patent Owner Response, Patent Owner's main contention, that ION has indemnified Petitioner, and thus controls this IPR, focuses on an indemnification provision in the 2008 Master Purchase Agreement ("Agreement" Ex. 2057) between PGSAS and [REDACTED] an ION subsidiary. *Id.* The Agreement is considered protective order material in this proceeding. *See* Ex. 2057, 14.

Our review of the Agreement, as discussed above with respect to privity, reveals no express language, context, or evidence that Patent Owner points to, that persuades us to interpret the language of the indemnification provision as requiring ION to defend a lawsuit, and, thus, extend the provision to include a specific obligation to defend, or pay for, a lawsuit filed against Petitioner or to undertake an IPR proceeding. Based on the evidence provided by Patent Owner, and for the same reasons set forth *supra*, ION does not have an obligation to step in and defend Petitioner against a lawsuit or to otherwise pay for the defense of a lawsuit and advance Petitioner as ION's proxy. "The mere existence of an indemnification agreement does not establish that the indemnitor has the opportunity to control an inter partes review." *Nissan North America, Inc. v. Diamond Coating Techs., LLC*, Case IPR2014-01546, slip. op. at 7 (PTAB Apr. 21, 2015) (Paper 10) (determining that the existence of an indemnification agreement was not sufficient to establish that the

unnamed parties were real parties-in-interest to the *inter partes* review proceeding).

3. *Additional Discovery*

Patent Owner next argues that the Board prejudicially denied Patent Owner additional discovery on the RPI and privity issue and that “[d]ue process, however, requires that Patent Owner be given the opportunity to seek this evidence, which is in the sole possession of PGS and otherwise unavailable to Patent Owner.” PO Resp. 57 (*citing* Paper 31 (“Rehearing Request” or “Reh’ing Req.”)). In its Rehearing Request, Patent Owner sought authorization to file a motion for additional discovery based on an Order from the first PGS IPR, (IPR2014-00687 (Paper 67)) denying additional discovery. We did not grant authorization for additional discovery following a telephone discovery conference with the parties in the IPR2014-00687 proceeding. Reh’ing Req. 1–2 *and see* IPR2014-00687 (Paper 67).

The fact that Patent Owner disagrees with our determination does not mean that our determination was prejudicial to Patent Owner. Neither party in an AIA proceeding is entitled to unfettered discovery. Our rules proscribe *limited discovery*, and allow the Board to weigh evidence, discern the basis upon which a party moves for additional discovery and determine whether or not “additional discovery is in the interests of justice.” 37 C.F.R. § 42.51(b)(2)(i). Patent Owner argued that it is entitled to additional discovery because there is purportedly a “hidden relationship” between PGS and ION. Reh’ing Req. 1. As evidence of this “hidden relationship” Patent Owner asserts that

Petitioner produced only one indemnification agreement, that is, the Master Services Agreement, Ex. 2057 discussed *supra*. Reh'ing Req. 2, 6–7. Patent Owner contends that other agreements exist that evidence a privity relationship because “PGS has admitted to the existence of *multiple* indemnification agreements and requests for indemnification under those agreements.” *Id.* at 6–7 (citing Exs. 2018, 14; 3002, 21:21_22:17, 25:16_26:21).

The first and oft-disputed factor in determining whether additional discovery is necessary in the interests of justice is whether there exists more than a “mere possibility” or “mere allegation that something useful [to the proceeding] will be found.” *Garmin Int'l, Inc. et al. v. Cuozzo Speed Techs. LLC*, Case IPR2012-00001, slip op. at 2–3 (PTAB Feb. 14, 2013) (Paper 20), “Order—Authorizing Motion for Additional Discovery” (listing factors to determine whether a discovery request is necessary in the interests of justice) (“the *Garmin* factors”). Under this first factor, a party should already be in possession of evidence tending to show beyond speculation that in fact something useful will be uncovered. *Id.* The discovery-seeking party only needs to set forth a threshold amount of evidence tending to show that the discovery it seeks factually supports its contention. *See Garmin*, Case IPR2012-00001, slip op. at 8–9 (PTAB Mar. 5, 2013) (Paper 26), “Decision—On Motion for Additional Discovery” (finding that, with respect to *Cuozzo*'s contention of commercial success, *Cuozzo* failed to present a threshold amount of evidence tending to show that the requested discovery of sales and pricing information involved units with a nexus to the claimed features).

Having again considered Patent Owner's request for additional discovery, we are not persuaded that additional discovery was prejudicially denied. First, the Master Services Agreement itself does not refer to any other documents, agreements, or otherwise disclose the existence of additional related indemnification provisions or such similar documents. *See generally* Ex. 2057. Secondly, although other agreements between ION and PGS and affiliates may exist, we have been apprised of no evidence that any of these other purported "multiple agreements" to which Patent Owner refers, have any relation to the underlying *ION* litigation, DigiFin product, or contain any specific language or provisions relating to an obligation on the part of ION to defend or indemnify PGS in a lawsuit or invalidity proceeding. *See* Ex. 2018. Patent Owner's Rehearing Request, as well as its Patent Owner's Response, is devoid of any evidence as to what is contained in, or required by such additional agreements, or that such purported additional agreements bear on PGS and ION's relationship in this IPR proceeding.

Patent Owner's lack of evidence pertaining to the substance or nature of any such "multiple agreements" was clear during the telephone discovery conference with the Board. During the discovery conference Patent Owner's counsel stated:

4 And we are seeking additional discovery
5 on those agreements because those
6 agreements can
7 be case dispositive in showing privity
8 between
9 Ion and PGS.

...

14 We have evidence that there are
15 agreements out there, Your Honor. We
want those
16 agreements and the petitioner is not
willing to
17 provide those to us.

Ex. 3002, 22:4–17. Patent Owner’s counsel continued emphasizing the existence of such other agreements, explaining that:

14 An[] indemnification agreement can
serve to
15 provide enough privity, or in the context
of a
16 CBM for an indemnification agreement
for one
17 company to have standing for CBM[,] we
want to be
18 able to make the privity argument here
through
19 these agreements, that privity alone can
be shown
20 through these agreements if we can get
our hands
21 on them.

Id. at 26:14–21. We agree to an extent with counsel’s point here, e.g., that indemnification can, in certain cases, show privity. Patent Owner’s argument, that an indemnification provision may support a finding of privity, is, however, simply attorney argument. The

only evidence we can discern from the above statements and from the Rehearing Request is that Petitioner admits to other agreements with ION that may have indemnification provisions unrelated to these IPR proceedings. *See* Ex. 2018, 14. Our review of Petitioner's Responses to Patent Owner's Interrogatories in Exhibit 2018, indicates that Petitioner's counsel, David Berl, unambiguously stated that Petitioner had made no claims or demands to ION for indemnity with respect to the '967 patent.

The PGS IPR Proceedings were filed by PGS. Although a PGS affiliate has informed ION that Patent Owner has asserted a claim relating to the use of devices provided by ION, neither PGS nor its affiliates have made demands to ION concerning the Challenged Patents under any such warranty or indemnity provision.

Ex. 2018, 14.

In *Taylor*, the U.S. Supreme Court articulated the difficult burden of proof that Patent Owner faces here.

We acknowledge that direct evidence justifying nonparty preclusion is often in the hands of plaintiffs rather than defendants. *See, e.g., Montana*, 440 U.S., at 155, 99 S.Ct. 970 (listing evidence of control over a prior suit). But "[v]ery often one must plead and prove matters as to which his adversary has superior access to the proof." 2 K. Broun, *McCormick on Evidence* § 337, p. 475 (6th

ed.2006). In these situations, targeted interrogatories or deposition questions can reduce the information disparity. We see no greater cause here than in other matters of affirmative defense to disturb the traditional allocation of the proof burden.

Taylor, 553 U.S. at 907.

We are not now, as we were not during the discovery conference or in considering the Rehearing Request, persuaded that the mere existence of additional agreements between ION and Petitioner is any evidence that something “useful” with respect to privity will be discovered. Something “useful” is something favorable in substantive value to a contention of the party moving for discovery. *Garmin* (Paper 26) at 7–8. We have not required that a party seeking additional discovery prove its contention as a prerequisite for obtaining the additional discovery. On the other hand, the mere existence of another agreement between ION and Petitioner does not without more, provide any evidence beyond speculation as to what is substantively contained in that agreement or that privity will be found from an indemnification provision in such an agreement.

4. Multi Klient

Patent Owner argues that a new, and allegedly wholly owned subsidiary of Petitioner, Multi Klient Invest AS (“Multi Klient”), has been revealed in the district court litigation as an “interested party concerning the subject matter of the ’967 patent.” PO

Resp. 57–58 (*citing* Exs. 2014; 2015; 2016; 2017; 2062; 2063; 2064; 2065). The fact that Multi Klient may be related to Petitioner and is indicated as having a financial interest in the outcome of litigation, however, does not by itself indicate that Multi Klient is a real party in interest in this IPR, or has any ability to control the present IPR proceeding. *See* Ex. 2066 (referring to Paragraph 2 of Order for Pretrial Conference as determinative of “financially interested” defendants). Patent Owner cites generally to numerous exhibits without any factual analysis or explanation of the evidentiary relevance of these exhibits with respect to Multi Klient, Petitioner, and the real party in interest issue. PO Resp. 58. Accordingly, we are not persuaded by what is essentially bare attorney argument that Multi Klient is an RPI to this proceeding and deny Patent Owner’s request to terminate this IPR.

IV. MOTION TO EXCLUDE EVIDENCE

Petitioner filed a Motion to Exclude Evidence seeking to exclude portions of the testimony of Robin Walker (Ex. 2099) and numerous other exhibits submitted by Patent Owner. Paper 53. The party moving to exclude evidence bears the burden of proving that it is entitled to the relief requested—namely, that the material sought to be excluded is inadmissible under the Federal Rules of Evidence. *See* 37 C.F.R. §§ 42.20(c), 42.62(a). Even without considering this evidence, we have determined that Petitioner has established, based on a preponderance of the evidence, the unpatentability of claim 4 of the ’967 patent. Furthermore, from Petitioner’s listed Exhibits on page 1 of its Motion to Exclude, our

Decision includes only material references to Exhibits 2059–61, 2083, 2099, and 2125. The remainder of the listed exhibits were not substantively considered for our Decision.

Petitioner challenges Exhibits 2059–2061 as hearsay. Exhibit 2059 is a written transcript of Patent Owner's videotaped deposition of ION employee John Thompson conducted during the *ION* lawsuit. Mr. Thompson's deposition was submitted by Patent Owner in this proceeding as confidential. Mr. Thompson's deposition is relied upon by Patent Owner essentially as a declaration, and like Patent Owner's other declarants, Petitioner had opportunity to cross-examine Mr. Thompson in this IPR proceeding. Additionally, Mr. Thompson's deposition testimony relates, at least in relevant part, to his email and attached press release also submitted by Patent Owner as Exhibits 2060 and 2061, and to which we refer to in this Decision. Mr. Thompson's deposition testimony relating to his own email is his own recollections, not those of another, and because Petitioner had the opportunity to cross-examine Mr. Thompson in this proceeding, his statements are not inadmissible.

The same analysis applies to the trial testimony of Dr. Bittleston and Mr. Williamson, to which we refer above from Exhibits 2083 and 2125. Dr. Bittleston's testimony from the *ION* lawsuit is his own understanding of the '967 patent, which bears his name as an inventor. Mr. Williamson's testimony relates to his recollections of customer and product feedback with respect to lateral steering. We find this prior trial testimony is similar to a declaration in this

proceeding for which Petitioner had the opportunity to conduct cross-examinations and is not inadmissible. Exhibit numbers for Exhibits 2101, 2108–2116, 2120, 2129, and 2130 are listed due to citation by Patent Owner, and for Exhibit 2099, Petitioner's hearsay and foundation arguments do not pertain to the particular paragraphs of Mr. Walker's testimony that we substantively considered with respect to nexus. Mr. Walker's testimony is not irrelevant because his arguments purporting to support nexus pertain at least to independent claim 1, from which claim 4 depends.

For these reasons, we deny Petitioner's Motion to Exclude.

V. MOTIONS TO SEAL

The Parties have filed multiple motions to seal in this proceeding pursuant to the Board's Default Protective Order entered in this proceeding. Paper 27. These motions indicate various portions of witness testimony, documents, and certain communications that are considered confidential or highly confidential and that may be subject to a protective order in the underlying district court proceedings as well. *See* Exs. 4, 16, 40, 49, 54, and 63.

We enter this entire Final Decision under seal, designated as FOR BOARD AND PARTIES ONLY. As set forth in our Order, below, the Parties shall meet and confer, and provide the Board with a proposed public version of this Final Decision within 15 days of the entry of this Final Decision, indicating by underlining, what portions of the Final Decision they

propose to redact.

VI. CONCLUSION

We conclude that Petitioner has demonstrated by a preponderance of the evidence that (1) claim 4 of the '967 patent is anticipated by the '636 PCT, and (2) claim 4 of the '967 patent is unpatentable as obvious over the '636 PCT.

This is a Final Written Decision of the Board under 35 U.S.C. § 318(a). Parties to the proceeding seeking judicial review of this decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

VII. ORDER

For the reasons given, it is

ORDERED that claim 4 of U.S. Patent No. 7,162,967 is determined by a preponderance of the evidence to be unpatentable;

FURTHER ORDERED that Patent Owner's request to terminate this IPR based on Multi Klient AS is DENIED;

FURTHER ORDERED that Petitioner's Motion to Exclude is DENIED;

FURTHER ORDERED that Petitioner and Patent Owner shall meet and confer, and provide the Board with a proposed public version of this Final Decision within 15 days of the entry of this Final

Decision. The proposed public version will indicate by underlining, what portions of the Final Decision the parties propose to redact; and

FURTHER ORDERED that because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

For PETITIONER:

David. Berl

Jessamyn Berniker

Thomas S. Fletcher

Christopher Suarez

WILLIAMS & CONNOLLY, LLP

dberl@wc.com

jberniker@wc.com

tfletcher@wc.com

csuarez@wc.com

For PATENT OWNER:

Michael L. Kiklis

Kevin B. Laurence

Scott A. McKeown

Katherine D. Cappaert

Christopher Ricciuti

OBLON, SPIVAK, McCLELLAND,

MAIER & NEUSTADT, L.L.P.

CPDocketKiklis@oblon.com

CPdocketlaurence@oblon.com

CPdocketMcKeown@oblon.com

cpdocketcappaert@oblon.com

cpdocketricciuti@oblon.com

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IPR2014-00687, Paper 67

IPR2014-00688, Paper 68

IPR2014-00689, Paper 67

Entered: May 19, 2015

UNITED STATES PATENT AND
TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND
APPEAL BOARD

PETROLEUM GEO-SERVICES INC,
and
ION GEOPHYSICAL CORPORATION AND ION
INTERNATIONAL S.A.R.L.,
Petitioners,

v.

WESTERNGECO LLC
Patent Owner.

Cases^{1 2}

IPR2014-00687 (Patent 7,162,967)

IPR2014-00688 (Patent 7,080,607)

¹ This Order addresses issues from a phone conference that are the same in all three cases. Therefore, we exercise our discretion to issue one Decision to be filed in each case. The parties are not authorized to use this style heading for any subsequent papers.

² Cases IPR2015-00565, IPR2015-00566, IPR2015-00567 have been joined with these proceedings.

IPR2014-00689 (Patent 7,293,520)

Before BRYAN F. MOORE, SCOTT A. DANIELS,
BEVERLY M. BUNTING, and BARBARA A. PARVIS,
Administrative Patent Judges.

DANIELS, *Administrative Patent Judge.*

CORRECTED ORDER³
Conduct of the Proceeding
37 C.F.R. § 42.5

A conference call for these proceedings was held on April 27, 2015, including Judges Daniels, Moore, Bunting, and Parvis, and respective counsel for the parties. A court reporter was also on the call. The transcript should be filed via PRPS as soon as it is available. PGS and WesternGeco requested the conference because they could not agree on deposition times for witnesses. In the discussion that follows, because of the related discovery matters directed to a second group of PGS proceedings, IPR2014-- -01475, -01477, and -01478, involving the same patents, we refer to the present proceedings as the first group of PGS proceedings.

Initially, Counsel for PGS raised a concern regarding unsupported evidence in the declaration of Mr. Robin Walker, asserting that certain information referenced by Mr. Walker had not been produced, and the deposition of Mr. Walker was only a few days

³ This Order corrects a misreference to a case number in the original Order.

away, set for April 30, 2015. Counsel for WesternGeco indicated that some of this information was on encrypted, and double encrypted drives which they were attempting to produce, and that certain information was from Mr. Walker's memory as opposed to physically available documents and things. The Board expects all available evidence that WesternGeco intends to rely on be produced prior to the deposition, and any additional evidence to be produced as soon as it is available. The Board is fully capable of determining the appropriate weight to give certain evidence relied upon by either party, and PGS may file motions to exclude at the appropriate time should it believe it is prejudiced by late or unsupported evidence.

With respect to the length of depositions, in accordance with our Initial Conference Order (Paper 55) in this first group of PGS proceedings, we consistently determine that a reasonable time for each witness's petition declaration testimony in the second group of PGS proceedings is 17 hours total, including: 12 hours for cross-examination; 3 hours for redirect examination; and 2 hours for re-cross examination. A reasonable time for reply declaration testimony for each witness in both groups of PGS proceedings is 7 hours for cross-examination; 4 hours for redirect examination; and 2 hours for re-cross examination. If necessary, the parties may contact the Board to explain why any further deposition time is needed.

Also during the call, WesternGeco's counsel explained that new evidence, filed subsequent to our Decisions to Institute, specifically Master Purchase Agreement No. MAR-2008-0139, (Ex. 2069) between

PGS and Concept Systems Limited, a subsidiary of ION, was indicative of the need for additional discovery with respect to alleged privity between ION and PGS. Having addressed the matters of privity and real-party-in-interest already in our Decisions to Institute, we took the matter under advisement. Thus, having reviewed the Master Purchase Agreement and the indemnity clause at 1.17, WesternGeco does not, now, apprise us of any new evidence demonstrating control, opportunity to control, or financial compensation for litigation, or IPR proceedings. See Ex. 2069, 14.⁴ Neither are we persuaded that we misapprehended or overlooked such evidence in our Decisions to Institute. See Inst. Dec. 17, Exs. 2022, 2027.

Accordingly, it is

ORDERED that petition declaration testimony for each witness in each of the first and second PGS proceedings shall not exceed 17 hours total, including: 12 hours for cross-examination; 3 hours for redirect examination; and 2 hours for re-cross examination;

FURTHER ORDERED that reply declaration witness testimony for each witness in each of the first and second PGS proceedings shall not exceed 13 hours total, including: 7 hours for cross-examination; 4

⁴ WesternGeco's Counsel points to IPR2014-01559, Paper 23, where the Board determined that the facts and evidence supported a finding of privity. However, the decision referred to is not precedential and the Board's evaluation of privity in an *inter partes* review is made based on a case-by-case basis, taking into account the particular facts of each case. See 77 Fed. Reg. at 48,760.

hours for redirect examination; and 2 hours for re-cross examination;

FURTHER ORDERED that Patent Owner's request for authorization for a Motion for Additional Discovery on the subjects of privity and realparty-in-interest, is *denied*; and

FURTHER ORDERED that a copy of this Order is to be entered into the files of the second group of PGS proceedings, IPR2014-01475, 01477, and 01478.

For PETITIONERS:

David. Berl
Thomas S. Fletcher
Jessamyn Berniker
Christopher Suarez
Williams & Connolly, LLP
dberl@wc.com
tfletcher@wc.com
jberniker@wc.com
csuarez@wc.com

W. Karl Renner
Roberto Devoto
David L. Holt
Fish & Richardson P.C.
IPR37136-0004IP1@fr.com

For PATENT OWNER:

Michael L. Kiklis
Scott A. McKeown
Christopher A. Bullard
Kevin B. Laurence

166a

Katherine D. Cappaert
Christopher Ricciuti
OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, L.L.P.
CPdocketMcKeown@oblon.com
CPdocketBullard@oblon.com

167a

Paper 10 IPR2014-01475
Paper 10 IPR2014-01476
Paper 10 IPR2014-01477
Paper 10 IPR2014-01478
Dated: November 26, 2014

UNITED STATES PATENT AND
TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND
APPEAL BOARD

PETROLEUM GEO-SERVICES INC,
Petitioner,

v.

WESTERNGECO LLC
Patent Owner.

Cases¹

IPR2014-01475 (Patent 7,162,967 B2)
IPR2014-01476 (Patent 6,691,038 B2)
IPR2014-01477 (Patent 7,080,607 B2)
IPR2014-01478 (Patent 7,293,520 B2)

¹ This Order addresses issues that are the same in all four cases. Therefore, we exercise our discretion to issue one Decision to be filed in each case. The parties are not authorized to use this style heading for any subsequent papers.

Before SCOTT A. DANIELS, BEVERLY M. BUNTING, and BARBARA A. PARVIS, *Administrative Patent Judges.*

DANIELS, *Administrative Patent Judge.*

ORDER²
37 C.F.R. § 42.5

A conference call in IPR2014-01475, IPR2014-01476, IPR2014-01477 and IPR2014-01478 (“Present Proceedings”) was held on November 13, 2014 among respective counsel for Petroleum Geo-Services, Inc. (“Petitioner”), Westerngeco LLC. (“Patent Owner”) and Administrative Patent Judges Beverly Bunting, Scott Daniels, and Barbara Parvis. The purpose of the call was to discuss Patent Owner’s request for authorization to file a motion for additional discovery.

During the conference call, Patent Owner asserted that additional discovery is necessary concerning whether an unnamed company, ION, is controlling Petitioner and the Present Proceedings, such that ION should have been named a real party-in-interest. Ex. 2001, 7. Specifically, Patent Owner requested a response to three interrogatories (“Present Interrogatories”) pertaining to identification of “the client here that’s between these petitions” (*Id.* at 8) and the legal relationship between the entities (*Id.* at 9). In support thereof, Patent Owner pointed broadly to evidence uncovered in related IPR2014-00678, IPR2014-00687, IPR2014-

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00688, and IPR2014-00689 (“Related Proceedings”) of communication between ION and some of the named petitioners (*Id.* at 8); communication generally on prior art (*Id.* at 8–9); and that these companies worked closely together in developing the allegedly infringing product (*Id.*). Further, Patent Owner pointed out that ION has been embroiled in litigation concerning the patents at issue in the Present Proceedings for several years, and is now barred under 35 U.S.C. § 315(b) from *inter partes* review. *Id.* at 7.

Petitioner countered that they responded to a set of five interrogatories (“Earlier Interrogatories”) directed to the question of real party-in-interest in the Related Proceedings, which challenge the same patents as in the Present Proceedings and involve the same parties. According to Patent Owner, Petitioner’s responses to the Earlier Interrogatories were limited specifically to the Related Proceedings, and not to the patents themselves. *Id.* at 7. Asserting that Patent Owner’s characterization of ION’s participation in the Present Proceedings is “speculative”, Petitioner nonetheless expressed a willingness to update their answers to the Earlier Interrogatories “to reflect what happened, if anything, between ION and Petitioner in relation to these petitions.” *Id.* at 12.

Based on Petitioner’s offer, we encouraged Petitioner, to the extent possible, to respond to the Present Interrogatories by November 20, 2014, after which we would issue a decision concerning Patent Owner’s request for authorization to file a motion for additional discovery. As indicated in an email from Patent Owner’s counsel to the Panel dated November

24, 2014, Petitioner did provide a response to the Present Interrogatories.

There are three types of discovery in an AIA trial, routine discovery, mandatory initial disclosures, and additional discovery.³ Additional discovery is permitted in an *inter partes* review only in the interests of justice. There must exist more than a “mere possibility” or “mere allegation that something useful [to the proceeding] will be found.” *Garmin Int’l Inc. v. Cuozzo Speed Techs LLC*, IPR2012-0001, Paper 20 (February 14, 2013). The party seeking discovery must come forward with some threshold amount of factual evidence or reasoning beyond speculation to support its request. *Id.*, Paper 26.

Patent Owner’s request amounts to no more than a “mere allegation that something useful will be found.” *See Garmin*, Paper 20, Factor 1. For example, Patent Owner questioned whether ION is a real party-in-interest based on unidentified prior art allegedly provided by ION to Petitioner. Ex. 2001, 12–13. Patent Owner proffered no direct evidence of this unidentified prior art in the Present Proceedings. Moreover, Patent Owner has produced no factual evidence or support, beyond speculation, that ION is controlling the Present Proceedings and thus is a real party-in-interest. *See Office Trial Practice Guide*, 77 Fed. Reg. 48,756, 48,759 (Aug. 14, 2013). Based on the

³ *See Office Patent Trial Practice Guide*, 77 Fed. Reg. 48756, 48761 (Aug. 14, 2012). *See also* 37 C.F.R. § 42.51(b)(1)(iii), “Unless previously served, a party must serve relevant information that is inconsistent with a position advanced by the party during the proceeding concurrent with the filing of the documents or things that contains the inconsistency.”

evidence presently of record in the Present Proceedings, we are not persuaded at this time that the reference to communications regarding prior art, indicates control, or the ability to control, by ION. The suspicion of Patent Owner's counsel, without more, is not enough to persuade us that something useful will result from authorizing the proposed motion.

In the absence of showing adequate foundation for discovery that is sufficiently narrowly tailored, the request for authorization is denied at this time.

In consideration of the foregoing, it is hereby:

ORDERED that Patent Owner's request for authorization to file a motion for additional discovery under 37 C.F.R. 42.51(b)(2) is denied.

For PETITIONER:

David I. Berl
Christopher Suarez
Williams & Connolly, LLP
dberl@wc.com
csuarez@wc.com

For PATENT OWNER:

Scott A. McKeown
Christopher A. Bullard
Michael Kiklis
OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, L.L.P.
CPdocketMcKeown@oblon.com
CPdocketBullard@oblon.com
CPDocketKiklis@oblon.com