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Paper 101
Entered: December 15, 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.,
Petitioner,

v.

WESTERNGECO LLC,
Patent Owner.

Case IPR2014-00689[1]
Patent 7, 293,520 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

[1] Case IPR2015-00565 has been joined with this proceeding.

I. INTRODUCTION

A. Background

Petroleum Geo-Services ("Petitioner," or "PGS") filed a Petition to institute an *inter partes* review of claims 1, 2, 18 and 19 of U.S. Patent No. 7,293,520 B2 ("the '520 patent").[2] Paper 2 ("PGS Pet."). WesternGeco LLC ("Patent Owner") timely filed a Preliminary Response. Paper 26 ("First Prelim. Resp."). We instituted trial in *Petroleum Geo-Services, Inc., v. WesternGeco L.L.C.*, Case IPR2014-00689, (the "PGS IPR"), for claims 1, 2, 18 and 19 of the '520 patent on certain grounds of unpatentability alleged in the Petition. Paper 32 ("Decision to Institute" or "Inst. Dec."). Patent Owner, in due course, filed a Response. Paper 43 ("Response"). Petitioner subsequently filed a Reply. Paper 78 (Reply).

In a separate proceeding, *ION Geophysical Corporation and ION International S.A.R.L., v. WesternGeco L.L.C.*, Case IPR2015-00565 (PTAB Jan. 14, 2015) (the "ION IPR"), ION Geophysical Corporation and ION International S.A.R.L. ("ION") also filed a Petition to institute an *inter partes* review of claims 1, 2, 18, and 19 of the '520 patent. Paper 3 ("ION Pet."). With their Petition, ION also filed a Motion for Joinder, Paper 4 ("Mot."), seeking to join the ION IPR with the PGS IPR. Mot. 2. Patent Owner filed an Opposition to ION's Motion for Joinder. Paper 10 ("Opp.,"). We instituted trial in the ION IPR and granted ION's Motion for Joinder.

[2] The Petition was initially accorded the filing date of April 23, 2014. Paper 6. Following submission of an updated Mandatory Notice (Paper 18) on August 5, 2014, including additional real-parties-in-interest, the filing date of the Petition was changed to August 5, 2014 and we exercised our discretion under 37 C.F.R. § 42.5(c) to set a new deadline for Patent Owner's preliminary response. Paper 22, 6.

Paper 14 ("ION Decision to Institute" or "ION Inst. Dec."). We ordered ION not to file papers, engage in discovery, or participate in any deposition or oral hearing in IPR2014-00689 without obtaining authorization. ION was, however, permitted to appear in IPR2014-00689 so that it could receive notification of filings and attend depositions and the oral hearing. Patent Owner subsequently filed a Preliminary Response to ION's Petition. Paper 70 ("ION Prelim. Resp.").

In addition, Petitioner filed a Motion to Exclude. Paper 85. Patent Owner filed an Opposition to Petitioner's Motion to Exclude (Paper 90), and Petitioner filed a Reply. Paper 94. Also, Petitioner filed three Motions to Seal (Papers 81, 87, and 97), and Patent Owner filed a Motion to Seal. Paper 91.

An oral hearing was held on July 30, 2015. A transcript of the hearing is included in the record. Paper 100 ("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 claims 1, 2, 18 and 19 of the '520 patent are unpatentable.

B. Additional Proceedings

Lawsuits involving the '520 patent presently asserted against Petitioner include *WesternGeco LLC v. Petroleum Geo-Services, Inc.*, 4:13-cv-02725 (the "PGS lawsuit") in the Southern District of Texas and *WesternGeco LLC v. ION Geophysical Corp.*, 4:09-cv-01827 (the "ION lawsuit") also in the Southern District of Texas. ION Pet. 8.

The '520 patent is related to the patents involved in IPR2014-00687 and IPR2014-00688.

C. The '520 Patent

The '520 patent (Ex. 1001), titled "Control System for Positioning of a Marine Seismic Streamers," generally relates 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 '520 patent reproduced below, labeled Prior Art, a seismic source, for example, air gun 14, is towed by boat 10 producing acoustic signals, which are reflected off the earth below. *Id.* The reflected signals are received by hydrophones (no reference number) attached to streamers 12, and the signals "digitized and processed to build up a representation of the subsurface geology." *Id.* at 36–41.

Fig.1.
Prior Art

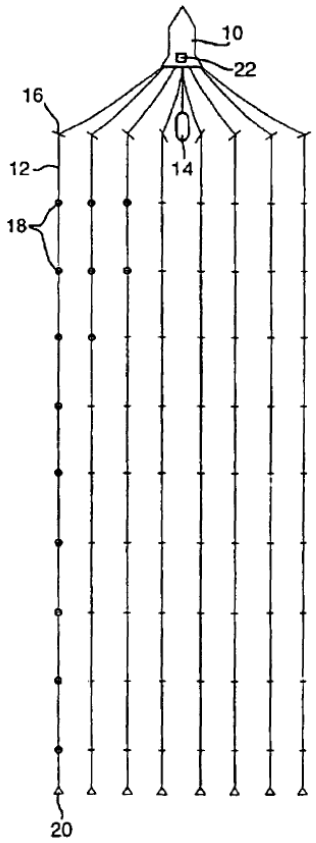

Figure 1, above, depicts an array of seismic streamers 12 towed behind boat 10.

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 1:42–2:16. As illustrated in Figure 1, above, each streamer is maintained in a generally linear arrangement behind the boat by deflector 16 which horizontally positions the end of each streamer nearest the boat. *Id.* at 3:36–45. Drag buoy 20 at the end of each streamer farthest

from the vessel creates tension along the streamer to maintain the linear arrangement.

To control the position and linear shapes of the streamers, a plurality of streamer positioning devices, called "birds" 18 or "SPD's" (streamer positioning devices), are attached along the length of each streamer. *Id.* at 3:53–55. The birds are horizontally and vertically steerable and control the shape and position of the streamer in both vertical (depth) and horizontal directions. *Id.* at 3:55–61. The birds's job 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 2:4–12. The most important task of the birds, the specification explains, is to keep the streamers from tangling. *Id.* at 4:4–5.

To control the birds, and hence the array of streamers, the '520 patent describes a distributed control system using global control system 22 located on the vessel, and a local control system at each bird to maintain the streamers in their particular linear and parallel arrangement. *Id.* at 3:62–66. In an embodiment of the described control system, global control system 22 monitors the actual positions of the birds on the streamers and "and is programmed with the desired positions of or the desired minimum separations between the seismic streamers 12." *Id.* at 4:21–25. Global control system 22 uses the desired and actual positions 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. Global control system 22 then communicates this information to the birds's local control system. *Id.* at 5:6–10.

The ’520 patent explains that the “inventive control system” has two primary modes, a feather angle mode, and a turn control mode. *Id.* at 10:27–29. The feather angle mode is used to maintain the linear form of the streamer at an angle offset from the direction of towing, usually to account for ocean crosscurrents affecting the streamers. *Id.* at 10:29–37. The ’520 patent explains that in the feather angle mode

> [t]he feather angle could be input either manually, through use of a current meter, or through use of an estimated value based on the average horizontal bird forces. Only when the crosscurrent velocity is very small will the feather angle be set to zero and the desired streamer positions be in precise alignment with the towing direction.

Id. at 10:32–36.

The turn control mode is used when the vessel is turning during a survey operation. *Id.* at 10:38–40. In a first part of the turn, birds 18 are instructed to “throw out” the streamer by generating a force in the opposite direction from the turn. *Id.* at 10:40–44. In a second part of the turn, the birds are directed back to the position defined by the feather angle mode. *Id.* The control system determines the first and second part of the turn according to data provided by the vessel navigation system. *Id.* at 10:50–53.

The control system can also operate in a streamer separation mode, important for example during inclement weather conditions to keep the streamers from tangling. *Id.* at 10:54–57. In this mode, the birds receive either desired horizontal force, or horizontal position information to maintain the streamers a desired horizontal distance spaced apart from one another, and, the streamers can also be separated in depth. The specification explains that “[i]n this control mode, the global control system 22 attempts to maximize the distance between adjacent streamers. The streamers 12 will

typically be separated in depth and the outermost streamers will be positioned as far away from each other as possible." *Id.* at 10:57–65. According to the '520 patent, these different modes allow the vessel to operate more efficiently, turn faster and lower the incidents of tangling during survey operations leading to a reduction in time and equipment costs of marine surveying. *Id.* at 10:44–46, 2:23–25.

D. Illustrative Claim

Claims 1 and 18 are independent. Claim 1, a method claim and claim 18 an apparatus claim, 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 contributing to steering the streamers;
> (b) controlling the streamer positioning devices with a control system configured to operate in *one or more control modes selected from a feather angle mode, a turn control mode, and a streamer separation mode*.

Ex. 1001, 11:10–18 (emphasis added).

> 18. An apparatus comprising:
> (a) an array of streamers each having a plurality of streamer positioning devices there along;
> (b) a control system configured to use *a control mode selected from a feather angle mode, a turn control mode, a streamer separation mode, and two or more of these modes*.

Id. at 12:4–10. (emphasis added).

E. The Instituted Grounds of Unpatentability

Petitioner contends that the challenged claims are unpatentable on the following specific grounds.[3]

References	Basis	Claims Challenged
Workman[4]	§ 102	1 and 18
Workman	§ 103	1, 2, 18 and 19
Hedberg[5]	§ 102	1, 2, 18 and 19
Hedberg	§ 103	1, 2, 18 and 19

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.*, 778 F.3d 1271, 1278–82 (Fed. Cir. 2015) ("Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA," and "the standard was properly adopted by PTO regulation."). 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

[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, U.S. Patent No. 5,790,472 (Aug. 4, 1998).
[5] Ex. 1005, U.S. Patent No. 3,581,273 (May 25, 1971).

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 '520 patent.

In our Decision to Institute we determined that an "array of streamers" as "more than one streamer." Inst. Dec. 11. We also determined that "feather angle mode," means "a control mode that attempts to keep each streamer in a straight line offset from the towing direction by a certain feather angle." *Id.* at 12. We further determined that "turn control mode" is "a control mode, in which during a turn, the streamer positioning devices generate force in the opposite direction of the turn and then are directed back into position." *Id.* at 13. We interpreted "streamer separation mode" as "a mode to control separation, or spacing, between streamers." *Id.* at 15. In addition, we determined for apparatus claim 18, that the limitations recited

in paragraph b) constituted a Markush group, and therefore "the prior art discloses the limitation if one alternative, i.e. a feather angle, a turn control mode, or a streamer mode, is in the prior art." *Id.* (citing *Fresenius USA, Inc. v. Baxter Int'l, Inc.*, 582 F.3d 1288, 1298 (Fed. Cir. 2009)).

Based on the full record developed during trial, we adopt those constructions not discussed below for purposes of this Decision. Because Patent Owner disagrees with our interpretations of "feather angle mode" and "streamer separation mode" as recited in both claims 1 and 18, we provide below additional analysis and the correct claim construction for both these claim limitations. *See* PO Resp. 7–10. Additionally, Petitioner contends that the term "control mode" should be construed. Reply 4–5.

B. Feather Angle Mode

We determined in the Decision to Institute that "feather angle mode" means "a control mode that attempts to keep each streamer in a straight line offset from the towing direction by a certain feather angle." Inst. Dec. 12. The parties, however, disagree over the meaning of the phrase "by a certain feather angle," set forth in our construction. Petitioner insists that it means "*no feather angle is input or set.*" Reply 8–9. Patent Owner disagrees and asserts that the feather angle is "a specific selection/input (whether manually or through other means) of the angle into the global control system." PO Resp. 7–8. This point requires clarification. There is only a very brief description of "feather angle mode" in the specification, which, in its entirety states:

> In the feather angle control mode, the global control system 22 attempts to keep each streamer in a straight line offset from the towing direction by a certain feather angle. The feather angle could be input either manually, through use of a current meter, or through use of an estimated value based on the average

> horizontal bird forces. Only when the crosscurrent velocity is very small will the feather angle be set to zero and the desired streamer positions be in precise alignment with the towing direction.

Ex. 1001, 10:29–37. Although this passage indicates that there may be various ways, e.g. estimation, manual input, current measurement, to input or determine the feather angle, it is clear that the "feather angle" itself exists as a value used by global control system 22 to control the streamers positions.

Petitioner argues that the above description "discloses implementing feather angle mode through use of a current meter" that "steers the streamers to counteract the current and attempts to keep them straight and parallel without a feather angle being input." Reply 8–9. Petitioner misconstrues the written description. The object of the second sentence isn't "feather angle mode," it is "feather angle." The specification states explicitly "[t]he *feather angle* could be input either manually, through use of a current meter, or through use of an estimated value based on the average horizontal bird forces." This sentence does not read as alternatives to the feather angle itself, but different ways to determine a feather angle value.

Patent Owner's explanation is the more reasonable one here. Accordingly, we clarify our claim construction so that it is understood that the feather angle mode includes global control system 22 *using* a certain feather angle value to control the birds and streamers. The "feather angle mode" is properly, "a control mode that attempts to keep each streamer in a straight line offset from the towing direction using a certain feather angle."

C. Streamer Separation Mode

Patent Owner contends that our construction of "streamer separation mode," as "a mode to control separation, or spacing, between streamers," is

incomplete. PO Resp. 9, 13. Patent Owner argues that this interpretation "fails to define what it means to "control separation." *Id.* Patent Owner's position is that streamer separation mode is "precisely controlling, and therefore, maintaining" streamer separation. *Id.* at 20. However, the word "precisely" is superfluous without some stated relative quantity for comparison. That a behavior-predictive model as disclosed in the specification might make the control more accurate or "precise" does not persuade us that our original interpretation of this term is incorrect. *See id.* As we wrote in our original construction, we are not apprised of any evidence in the specification or claims that any specific distance between the streamers in the separation mode is "set and maintain[ed]" as Patent Owner urges. Inst. Dec. 14. The phrase "set and maintain" may be an explanation of *how* a system could "control separation" but this phrase is not found anywhere in the specification or claims. Indeed, the '520 patent sets forth various ways that separation or spacing can be controlled between streamers, [i]n the preferred embodiment of the present invention, 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." Ex. 1001 at 4:21–25 (emphasis added). Patent Owner has not provided persuasive evidence adequate to explain why the proper claim construction requires that the phrase "to control separation" be further defined more precisely as, "to set and maintain," the spacing.

We determine based on the specification, claim language, and evidence from the complete record before us, that our initial claim construction is correct, and that under the broadest reasonable interpretation,

"streamer separation mode," means "a mode to control separation, or spacing, between streamers."

D. Control Mode

Petitioner contends that Patent Owner has asserted, covertly, a claim construction for the term "control mode." Reply 4–5. Patent Owner argues that Workman does not disclose any modes and that "as used in the '520 patent, a 'control mode' refers to a goal-oriented automated configuration." PO Resp. 19–20 (citing Ex. 2042 ¶¶190–191). Petitioner argues that such an interpretation, to the extent it is a claim construction proffered by Patent Owner, is too narrow and that "a control mode is simply a particular way of operating a device." Reply 4.

The specification of the '520 patent does not provide a definition of this term. The specification states generally "[t]he inventive control system will primarily operate in two different control modes: a feather angle control mode and a turn control mode." Ex. 1001, 10:27–29. Patent Owner's Declarant, Dr. Triantafyllou testifies that Workman does not disclose "model based control" because "there is no goal-oriented steering disclosed at all." Ex. 2042 ¶ 190. Dr. Triantafyllou states that

> [i]n contrast, the '520 patent describes goal-oriented automated configurations maintained by "control modes": feather angle mode automatically steers to achieve a particular feather angle, turn control mode automatically steers to turn faster, and streamer separation mode automatically steers to achieve and maintain desired separations.

Id. at ¶ 191 (citing Ex. 1001, 10:27–65). Dr. Triantafyllou's testimony is essentially that, for example in streamer separation mode, there is defined (a) a goal, "to achieve and maintain desired separations" and, (b) automation, e.g. "automatically steer[ing] to achieve and maintain desired separations."

Id. This testimony, however, merely describes a desired result, i.e. "to maintain desired separations," and *how* such a goal could be accomplished, by "automatically steering." It is axiomatic that any operation of a computer system or program has a goal or desired result, otherwise its operation, even its existence, would be pointless. *See* MICROSOFT® PCDICTIONARY 118 (5th Ed. 2002) ("computer n. Any device capable of processing information to produce a desired result."). Moreover, the word "automatically" introduces more ambiguity into the claim interpretation because it is not clear from the specification or Dr. Triantafyllou's testimony what "automatically" means, or that manual input or operations associated with the systems steering operations are excluded. *See* Ex. 1001, 10:32–33 ("The feather angle could be input [] manually."). We, therefore, decline to adopt Patent Owner's purported construction of this term.

A common computer term, Microsoft's PC Dictionary defines the word as "mode n. The operational state of a computer or a program." MICROSOFT® PCDICTIONARY 344 (5th Ed. 2002). Under this definition, a "mode" controls the state, i.e., operation, or even lack of operation, of a computer or computer program as is most consistent with the written description and context of the '520 patent. Because at least Patent Owner's first argument with respect to anticipation focuses on this term, we determine that "control mode" means "operational state."

III. ANALYSIS

A. Claims 1 and 18 – Anticipation by Workman

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 claims 1 and 18 are anticipated by Workman under 35 U.S.C. § 102. Pet. 28–32; Reply 11–14.

Patent Owner disagrees, contending that Workman fails to disclose actively controlling its streamers in control modes as recited in the independent claims. PO Resp. 19–20.

"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).

Whether a patent is invalid as anticipated is a two-step inquiry. *See Power Mosfet Tech., LLC. v. Siemens AG*, 378 F.3d 1396, 1406 (Fed. Cir. 2004). The first step requires construction of the claims. *Id.* The second step in the analysis requires a comparison of the properly construed claim to the prior art. *Id.*

1. Overview of Workman

Workman discloses a method for controlling the position and shape of marine seismic streamer cables towed by a vessel. Ex. 1004, Abstract, Fig. 1. More specifically, Workman teaches that real time signals, i.e. actual signals, from a towed streamer array are compared to corresponding input

threshold parameters, to determine if the cables should be repositioned. *Id.* at col. 2, ll. 47–51. Workman discloses that the positions of seismic streamer cables are controlled by a plurality of birds and tail buoys "for adjusting the vertical and lateral positions of the streamer cables 13." *Id.* at col. 3, ll. 16–19. Figure 2 of Workman is reproduced below.

Fig. 2

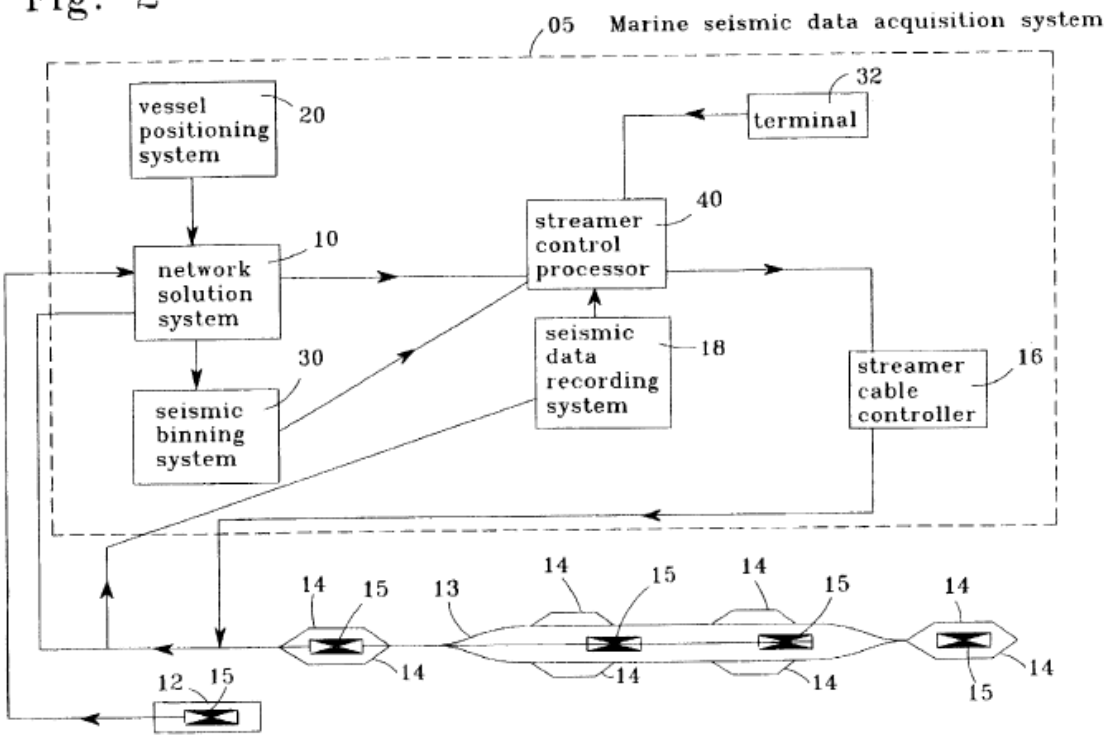

Figure 2 of Workman illustrates diagrammatically, seismic data acquisition system 5 for positioning streamer cables 13 including streamer controller 16 receiving instructions from streamer control processor 40. *Id.* at col. 4, ll. 16–18. Within data acquisition system 5, Workman also discloses network solution system 10 which uses a "Kalman filter solution on the signals it receives from the vessel positioning system 20 and location sensing devices 15." *Id.* at col. 3, ll. 47–49. Workman states that once the real time position signals are obtained, "[t]he streamer control processor 40

evaluates these real time signals and the threshold parameters from the terminal 32 to determine when the streamer cables 13 need to be repositioned and to calculate the position correction required to keep the streamer cables 13 within the threshold parameters." *Id.* at col. 4, ll. 12–17. Threshold values can be, for example, minimum streamer cable separations, minimum allowable seismic coverage, maximum hydrophone noise levels,and minimum obstructive hazard separation. *Id.* at col. 3, l. 66–col. 4, l. 3. Besides repositioning of the streamer cables according to the comparison of real time signals and threshold parameters, Workman discusses an "at risk" situation such as entanglement of the streamer cables, or obstructive hazards. *Id.* at col. 4, ll. 45–51. In an "at risk" situation, certain parameters may be disregarded, for example, the hydrophone noise level parameter. *Id.* at col. 4, ll. 41–46. In other situations, the streamer cables may be repositioned due specifically to the level of hydrophone noise. *Id.* at col. 5, ll. 15–19.

2. Claims 1 and 18[6]

Patent Owner argues that Workman does not anticipate claims 1 and 18 for essentially three reasons, (a) Workman does not actively control its streamers in control modes; (b) "Workman does not disclose any modes;" and (c) Workman does not disclose a "streamer separation mode." PO Resp. 19–20.

Enablement

Petitioner addresses an enablement issue that, at least in this proceeding, is not clearly and specifically raised by Patent Owner.[7] *See* Reply 14–19, PO Resp. 32. Patent Owner states that "[t]here is no support for Dr. Evans's assertion unless one presupposes that Workman has a working lateral steering system, which it does not . . . [b]ecause Workman explicitly discourages active and continuous positioning of streamers." PO Resp. 32. (citing Ex. 2042 ¶¶ 98, 105, 199–200). To the extent it has been raised here, we address enablement because it is a threshold issue with respect to anticipation. A patent claim "cannot be anticipated by a prior art reference if the allegedly anticipatory [disclosure] cited as prior art [is] not enabled." *In re NTP, Inc.*, 654 F.3d 1279, 1301 (Fed. Cir. 2011). Although anticipation is a question of fact, whether a prior art reference is enabling is a question of law with underlying factual inquiries. *Id.*

The standard for what constitutes proper enablement of a prior art

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[6] Claims 1 and 18 recite substantively the same limitations of "control mode" and "streamer separation mode." Although claim 1 is a method claim, and claim 18 is an apparatus claim we understand no substantive difference between these claim terms and our analysis and construction applies equally to both.

[7] The issue of enablement of the prior art is specifically raised by Patent Owner in IPR2014-00688.

reference for purposes of anticipation under section 102 differs from the enablement standard for a patent application under section 112. *See Verizon Services Corp., v. Cox Fibernet Virginia, Inc.*, 602 F.3d 1325, 1337 (Fed. Cir. 2010). Anticipation does not require the actual creation or reduction to practice of the prior art subject matter; anticipation requires only an enabling disclosure. *See Schering Corp., v. Geneva Pharma, Inc.*, 339 F.3d 1373, 1380 (Fed. Cir. 2003); *citing In re Donohue*, 766 F.2d 531, 533 (Fed. Cir. 1985).

There is no dispute that streamer positioning devices which could be laterally, or horizontally, steered were known in the prior art before the priority date of the ’520 patent. The ’520 patent itself describes “[a]nother system for controlling a horizontally steerable bird is disclosed in our published PCT International Application No. WO 98/28636.” Ex. 1001, 2:38–40. Further, discussing Figure 1 labeled “Prior Art” the ’520 patent explains that “located between the deflector 16 and the tail buoy 20 are a plurality of streamer positioning devices known as birds 18. Preferably the birds 18 are both vertically and horizontally steerable.” *Id.* at 3:53–56. *See Bristol-Myers Squibb Co. v. Ben Venue Labs., Inc.*, 246 F.3d 1368, 1379 (Fed. Cir. 2001). “It is well settled that “enablement of an anticipatory reference may be demonstrated by a later reference.”)

Workman refers also in the Background of the Invention to known SPD’s which control lateral position of streamers, “streamer positioning devices are well known in the art . . . For example, devices to control the lateral positioning of streamer cables by using camber-adjustable hydrofoils or angled wings are disclosed in U.S. Pat. Nos. 4,033,278 and 5,443,027.” Ex. 1004, 1:45–58. Moreover, it is presumed that Workman is enabled. *See Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F. 3d 1313, 1355 (Fed. Cir.

2003) ("an accused infringer should be [] entitled to have the district court presume the enablement of unclaimed (and claimed) material in a prior art patent defendant asserts against a plaintiff.").

We are persuaded on the record before us that at least Workman and PCT International Application No. WO 98/28636 ("'636 PCT") sufficiently describe lateral steering such that one of ordinary skill in the art would be able to practice lateral steering of SPD's. Further, we note that neither claims 1 or 18 recite specifically a limitation that the streamer positioning devices are laterally steered. In fact, Patent Owner does not attempt to distinguish its invention over Workman on the basis of "lateral steering," only that Workman's streamers are not "actively managed." PO Resp. 32. Patent Owner's arguments with respect to the prior art disclosure, or lack thereof, of lateral steering, active control, and ostensibly non-enablement of Workman are vague and unpersuasive.

For enablement there are two distinct burdens of proof, Petitioner's burden of persuasion, which never shifts, and the burden of production that shifted in this case to Patent Owner. *Dynamic Drinkware, LLC v. National Graphics, Inc*., No. 2015-1214, 2015 WL 5166366, t *4 (Fed.Cir. Sept. 4, 2015) ("[t]he burden of production then shifted to National Graphics [Patent Owner] to argue or produce evidence . . . that Raymond is not prior art"). We determine that Patent Owner has not met its burden of production, i.e. sufficient arguments or evidence which overcome the presumption that Workman is enabled as to lateral steering and active control of SPD's.

Control Mode

Patent Owner's arguments with respect to anticipation each turn around an erroneous claim construction of "control mode." Patent Owner argues that different from the claimed control modes which actively control

the streamers, "Workman is concerned with noise minimization rather than generating noise through actively controlling streamer positioning devices." PO Resp. 19. The correct interpretation of "control mode" does not include any aspect, state or condition that requires "active control." We construed "control mode" to mean "operational state." Whether Workman's network solution system 10 or streamer control processor 40 does, or does not disclose "active control" in any of its operations is irrelevant because we are not persuaded that "control mode" in either claim 1 or 18 includes "active control."

Turning to Patent Owner's next argument that "control mode" is "a goal-oriented automated configuration," not disclosed by Workman, this argument is similarly unpersuasive. PO Resp. 19–20. As discussed above, the appropriate claim construction of "control mode" is "operational state." Workman clearly discloses a computerized streamer control system having an operational state, being "a network solution system 10 for determining the position of the streamer cables 13 and seismic sources 12, and a streamer cable controller 16 for controlling the streamer positioning devices." Ex. 1004, 3:40–43. To the extent that Patent Owner's explanation of a control mode having "a goal-oriented automated configuration" is even relevant to the comparison with Workman we are still not apprised of a substantive difference between the claims and the prior art. Workman discloses that "the network solution system 10 implements a Kalman filter solution on the signals it receives . . . output[ing] real time streamer cable shapes, streamer cable positions, and streamer cable separations." *Id.* at 3:46–51. A Kalman filter is explicitly part of the automated computer network solution system 10 performing data acquisition and determination of various output values, directed to the goal of controlling the streamers and their separations from

one another. Workman therefore discloses an operational state of a computer system that, as specifically stated by Workman, determines streamer shapes, positions, and separations.

Streamer Separation Mode

As discussed above, we are not persuaded that streamer separation mode is properly defined as having a streamer spacing "set and maintain[ed]" as Patent Owner promotes. The appropriate claim construction of "streamer separation mode" is "a mode to control separation, or spacing, between streamers." Patent Owner contends that under the proper definition the threshold spacing parameters disclosed by Workman "fails to ***control*** any separation or spacing (or **set and maintain** separation or spacing, for that matter)." PO Resp. 22 (citing Ex. 2042 ¶¶ 193–194.) Patent Owner's own arguments, however, contradict this position. Patent Owner states that "Workman's system is purely reactionary; it lies in wait and attempts to reposition the streamers only in the event that a certain threshold value is violated." *Id.* This argument asserts, in effect, the operational state occurring under certain conditions, e.g. violation of a spacing threshold, the streamer is "repositioned" to control separation or spacing between streamers as the proper construction elucidates. Indeed Dr. Triantafyllou's testimony supports our understanding where he states that "Workman does not move the streamers unless it violates a minimum threshold." Ex. 2042 ¶ 194. Moreover, the fact that an additional parameter such as a high noise level might restrain the system from repositioning the streamers even if the threshold is exceeded makes no difference in our understanding that under appropriate operating conditions Workman controls streamer separation. PO Resp. 23.

Patent Owner argues further that "[t]here is also no teaching in Workman of how much to correct, or where the streamers will end up once the violation is remedied." *Id.* This is not persuasive because neither claim 1 nor claim 18, nor the proper construction of "streamer separation mode" includes any definition or limitation relating to a magnitude of correction or control.

In addition to disclosing an array of streamers and streamer positioning devices, the evidence shows that Workman expressly teaches an operational state of a streamer control system that is no different than the claimed "control system configured to use a control mode selected from . . . a streamer separation mode" as recited in 18, or as called for in claim 1, "controlling the streamer positioning devices with a control system configured to operate in one or more control modes selected from . . . a streamer separation mode."

We are persuaded by the complete record before us that Petitioner has shown by a preponderance of the evidence that each of the limitations of independent claims 1 and 18 are disclosed by Workman.

B. Claims 1, 2, 18 and 19 – Obviousness over Workman

1. Claims 1 and 18

Patent Owner contends that our Decision to Institute did not provide legally sufficient obviousness analysis and "fails to apprise Patent Owner of the specific obviousness arguments going to trial." PO Resp. 23–24 (*citing In re Zurko*, 258 F.3d 1379, 1386 (Fed. Cir. 2001); *In re Vaidyanathan*, 381 Fed. App'x. 985, 994 (Fed. Cir. 2010); *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 guessing as to what features the Board considers missing from

Workman, but that would be obvious in view of the level of ordinary skill in the art." *Id.* at 24.

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 Tech., Inc. v. Waters Corp*., 543 F.3d 1351, 1363 (Fed. Cir. 2008). "[I]t does not follow that every technically anticipated invention would also have been obvious." *In re Fracalossi*, 681 F.2d 792, 796 (CCPA 1982) (Miller, J., concurring).

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 Workman, as a standalone reference discloses all of the limitations of claims 1 and 18 including "control mode" and "streamer separation mode" as construed and discussed above. In other words, there is no element of claims 1 and 18 missing from Workman as discussed above in relation to anticipation that necessitates modification, additional rationale, or articulated reasoning. Inasmuch as Workman 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, and streamers in a towed seismic survey array as in the '520 patent, this case is particularly appropriate for application of the maxim that anticipation is the epitome of obviousness. *Fracalossi*, 681 F.2d at 794. All that remains for this ground is to address secondary considerations, which we do below.

2. Claims 2 and 19

Petitioner asserts that dependent claims 2 and 19 would have been obvious over Workman. A patent is invalid for obviousness:

> if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

35 U.S.C. § 103. Obviousness is a question of law based on underlying factual findings: (1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of ordinary skill in the art; and (4) objective indicia of nonobviousness. *See Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966). Courts must consider all four *Graham* factors prior to reaching a conclusion regarding obviousness. *See Eurand, Inc. v. Mylan Pharms., Inc. (In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.)*, 676 F.3d 1063, 1076–77 (Fed. Cir. 2012). As the party challenging the patentability of the claims at issue, Petitioner bears the burden of proving obviousness by a preponderance of the evidence. *See* 35 U.S.C. § 316(e).

Both claims 2 and 19 depend from respective independent claims 1 and 18, and relate specifically to the feather angle mode. For example, claim 19 recites

> 19. The apparatus of claim 18 wherein the control mode is the feather angle mode, and the controlling comprises the control system attempting to keep each streamer in a straight line offset from a towing direction by a feather angle.

As discussed above in our claim construction, "feather angle mode" is, "a control mode that attempts to keep each streamer in a straight line offset from the towing direction using a certain feather angle." We identified the scope of Workman above, which does not describe a feather angle, and Petitioner concedes that Workman does not disclose a feather angle, or using a feather angle value to control the streamer array. Pet. 32.

Despite this, Petitioner alleges that a person of ordinary skill in the art "would have had reason to implement a 'feather angle mode,' given the teachings of Workman and common understandings in the art, with an expectation of success." *Id.* at 33 (citing Ex. 1002 ¶ 143). Patent Owner disagrees, and contends that Dr. Evans makes unsupported suppositions as to the prior art teachings, draws erroneous conclusions of fact and fails to explain sufficiently why one of skill in the art would have been motivated to use a feather angle in a streamer array control system. PO Resp. 28–30.

With respect to the appropriate level of skill in the art, Petitioner's Declarant, Dr. Evans states that a person of ordinary skill in the art of marine seismic surveying should have for example a Master's degree or Ph.D. in ocean engineering, mechanical engineering, geophysics, or a related area, an understanding of hydrodynamics and advanced control systems, and at least three years of experience designing and operating marine seismic surveys, including significant field experience aboard marine vessels undertaking marine seismic surveys. Ex. 1002 ¶ 23. According to Dr. Triantafyllou, Patent Owner's expert, one of ordinary skill in the art would have a "Bachelor of Science in ocean engineering or control systems; or five years of experience in the field of ocean engineering or marine seismic surveys." Ex. 2042 ¶ 18.

There is no specific dispute regarding the level of ordinary skill in the art between the parties although Petitioner's definition essentially involves greater educational component and specific field experience on a survey vessel. Notwithstanding the evidence on skill level presented by the parties, the level of skill in the art often can be determined from a review of the prior art. *See Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163–64 (Fed. Cir. 1985). Based on our review of the prior art and the parties

definitions, the applicable field of endeavor is marine seismic surveying, and the person of ordinary skill in the art would have at least a bachelor's degree in ocean, mechanical, geophysical or electrical engineering, or a similar science degree, and a minimum of 3 years of marine seismic survey design and field experience. *See* Ex. 2042 ¶ 18; Ex. 1002 ¶ 23. The person of ordinary skill in the art would also be familiar with the design and operation of marine seismic surveys including the design of seismic survey arrays including sensors such as hydrophones, streamers, streamer positioning devices and the associated electronic equipment for producing representations of sub-surface geology. Ex. 1005, 1:5–35, Ex. 1004, 1:15–68.

Petitioner identifies several reasons why one of skill in the art would want to control and maintain consistent separations between streamers during seismic surveys; first, it was well recognized that entanglement of the streamers was a significant problem. Pet. 33 (citing Ex. 1004, 1:33–35). Second, a consistent separation was important to "to optimize efficient seismic data collection." *Id.* at 33–34 (citing Ex. 1004, 1:37–44). Petitioner argues specifically that Workman discloses this consistent control of the streamer separation straight behind the boat, i.e. at a zero degree feather angle, that is the same as the zero degree feather angle embodiment described in the '520 patent. *Id.* at 35–36; *see also* Ex. 1002 ¶ 150. Third, Petitioner relies upon the testimony of Dr. Evans who explains that a person of skill in the art would have known, for example, where a current was naturally offsetting the streamers at a five degree feather angle, that

> [i]n this situation, attempting to return the streamers to a zero degree feather angle against the current may generate hydrophone noise that adversely affects data quality. In such situations, a person of ordinary skill would understand that it

> may be more desirable to maintain the streamers at a constant two degree feather angle than to return the streamers to the zero degree feather angle position.

Ex. 1002 ¶ 150. Also, Dr. Evans states that one of skill in the art would need to match feather angles in subsequent surveys of the same geographic area to obtain reliable 4D survey data, for example "if currents forced a survey at time T to be conducted at a 5 degree feather angle, a survey at time T+Δ would also need to be conducted at such a 5 degree angle to obtain suitable data for 4D purposes. *Id.* at ¶ 151 (citing Ex. 1012 (David H. Johnston et. al., "Time-Lapse Seismic analysis of the North Sea Fulmer Field," SEG Extended Abstracts (1997)) ("Johnston") at 890. In addition, Dr. Evans testifies that because Workman could identify and control the streamers "it also would have been possible to adapt Workman so that its control system could include a parameter that measured the feather angle between streamers." *Id.* at ¶ 153.

Patent Owner contends that Dr. Evan's testimony is insufficient and conclusory because Workman does not provide a teaching or reason to make the necessary modification and that Dr. Evan's testimony is improperly based on hindsight. Patent Owner argues also that "Petitioner does not explain how or why one of ordinary skill in the art would convert Workman's passive system into one that actively steers streamers such that the streamers are maintained in desired configurations. PO Resp. 33–34 (citing Ex. 2042 ¶¶ 199–200).

We are not persuaded by Patent Owner's initial position that Workman itself does not provide a teaching or reason to use a feather angle to facilitate control of the streamers. Petitioner relies on its expert, Dr. Evans and the level of ordinary skill in the art to supply the necessary

reasoning and rationale for its obviousness analysis with respect to use of a feather angle to control the streamers. There is no legal requirement that the asserted reasoning or rationale be predicated on a teaching or suggestion in the reference. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 419 (2007) ("The obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents.").

The question of obviousness in this proceeding for claims 2 and 19 rests on whether Dr. Evans has provided a persuasive articulated reasoning based on rational underpinnings to support the contention that one of ordinary skill in the art having familiarity with the design and operation of marine seismic surveys, seismic survey arrays including sensors such as hydrophones, streamers, streamer positioning devices and the associated electronic equipment, would have modified Workman to use a feather angle to control streamer positioning. Without this, Petitioner's contentions would therefore appear to be the result of hindsight analysis as Patent Owner asserts. *See In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006), (cited with approval in *KSR*, 550 U.S. at 418.)

Dr. Evans testifies persuasively that during collection of seismic data it was important to attempt to achieve a fairly consistent and straight streamer array behind the boat towing the array and along the plotted survey route, or line, and that maintaining "uniform streamer separation along the course of a planned survey line was a predictable solution to a problem that had been known in the art, because it would lead to a collection of the data at set streamer separations along the planned and desired survey line." Ex. 1002 ¶ 146. Dr. Evans also testifies persuasively that streamer feathering

was a known factor in seismic surveys where currents forced the streamers out of alignment behind the boat and "a marine seismic surveyor must be prepared to correct the recorded data where streamers are feathered and data collection does not follow the predetermined survey path." *Id.* Based on this, Dr. Evans states that in order to optimize data collection, "a person of ordinary skill would have been motivated to, at minimum, set and maintain the streamers at a zero degree feather angle offset." *Id.* at ¶ 149.

What is not immediately clear from Petitioner's argument is *why* prescribing a specific offset "feather angle" value to the streamers positioning determination system would have been apparent to one of skill in the art. But to this point, Dr. Evans directs us to Workman for evidence that it was a "well-known problem that the noise produced by streamer positioning devices can reduce seismic data quality in certain situations." *Id.* at ¶ 150 (citing Ex. 1004, 1:62–2:9). We further ascertain from Dr. Evans testimony that when streamers are offset from the line of survey for instance by five degrees, "[i]n this situation, attempting to return the streamers to a zero degree feather angle against the current may generate hydrophone noise that adversely affects data quality." *Id.* Based on these evidentiary underpinnings, Dr. Evans reasons that

> A person of ordinary skill would understand that it may be more desirable to maintain the streamers at a constant two degree feather angle than to return the streamers to the zero degree feather angle position. It was well-known to persons of ordinary skill that maintaining a straight and constant feather angle—even if non-zero—would produce more reliable seismic data than data retrieved from a cable that was not set and maintained in a straight configuration.

Id. This reasoning is persuasive because it explains why one of ordinary skill in the art would have been motivated to use a specific feather angle

value to determine streamer positioning apart from that imparted by a cross-current (five degrees) and different also from the streamers being repositioned to an alignment straight behind the boat towing the array i.e. zero degrees. In this scenario, by moving the streamers from five degrees, to a two degree feather angle, the data collection quality would be better and the noise generated by the SPD's would not be as great as if the streamers were returned to the zero degree offset straight behind the boat and aligned with the plotted survey line.

The remainder of Patent Owner's arguments with respect to the lack of obviousness for "feather angle mode," rely upon improper interpretation of the term "control mode." PO Resp. 32–34. Patent Owner reiterates their argument that "one of ordinary skill would not have modified Workman to include an *actively steered* streamer array that attempts to maintain a certain feather angle as recited in the challenged claims." *Id.* at 33 (emphasis added). As discussed above in our claim construction, we do not construe "control mode" to include "active steering" but as "operational state." We appreciate also, as Petitioner argues, that Dr. Triantafyllou is an expert in the field. *See* PO Resp. 33 (citing Ex. 2042 ¶¶ 1–11, 98, 105, 199–200). However, Dr. Triantafyllou's testimony refuting Dr. Evans's testimony is based on an erroneous claim construction that includes the requirements that the claims at issue require, "continuously steering" and "active control" of the streamers. *See* Ex. 2042 ¶ 200 (Dr. Triantafyllou states, for example, that nothing Dr. Evans or Petitioner can point to "would have prompted a POSA to modify Workman's noise-reduction system to continually steer streamer positioning devices to maintain a specified streamer separation or feather angle."). We are not persuaded by these contentions that Dr. Evan's testimony should be disregarded.

3. Secondary Considerations

Patent Owner has proffered certain evidence of secondary considerations which we address here. PO Resp. 47–49. 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) ("success 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.").

Patent Owner contends that certain evidence from the ION lawsuit and from the Declaration of Robin Walker, (Ex. 2077), 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. 48–49. Specifically, Patent Owner argues that "the record evidence during the ION litigation established the long-felt need and commercial success of the patented inventions, as well as initial industry skepticism followed by praise once the inventions were commercialized." *Id.* at 47. In support of this argument, Patent Owner refers to a variety of trial testimony exhibits from the ION lawsuit, including the testimony of Mr. Walker (Ex. 2034), Mr. Tom Scoulios (Ex. 2035), and Mr. Robert Brune (Ex. 2036). *Id.* With respect to the trial testimony of Messrs. Walker, Brune and Scoulios, Patent Owner merely provides citations to purportedly relevant portions of Exhibits 2034, 2035, 2036, stating only:

> (See, e.g. Ex. 2034, Excerpt of Trial Testimony of Robin Walker, at 1623:2-18 (evidencing commercial success of 4D

> survey systems);Ex. 2035, Excerpt of Trial Testimony of Tom Scoulios, at 290:4-291:16 and 293:10-18 (evidencing long-felt need for lateral steering system and failure of others to solve the problem with tail buoy systems); Ex. 2036, Excerpt of Trial Testimony of Robert Brune, at 3997:19-3999:7 (evidencing long-felt need for the claimed system, failure of others to solve the problem solved by the claimed system, and industry praise for the claimed system).)

Id. at 47–48. Patent Owner argues that these generic references to trial testimony from district court litigation support a finding of long-felt need but does not explain with any detail why, or how, the referenced testimony, evidences a long-felt need, failure of others, or industry praise. In this regard, we limit our review to evidence actually discussed in Patent Owner's Response. We will not play archeologist with the record to discover evidentiary support for bare attorney argument made in such a response. *See Google Inc. v. ART+COM Innovationpool GmbH*, Case IPR2015-00788, slip. op. at 10 (PTAB Sept. 2, 2015) (Paper 7) (citing 37 C.F.R. § 42.104(b)(5) ("The Board may exclude or give no weight to the evidence where a party has failed to state its relevance or to identify specific portions of the evidence that support the challenge.")). We decline to consider, moreover, information presented in an Exhibit, but not discussed sufficiently in Patent Owner's Response. *See* PO Resp. 47 (citing Ex. 2035 and 2036, without any discussion of that evidence). Among other reasons, doing so would permit the use of declarations to circumvent our rules relating to page limits. In that regard, our rules prohibit a party from incorporating by reference from one document (such as a supporting declaration) into another document (such as Patent Owner's Response). *See* 37 C.F.R. § 42.6(a)(3).

Patent Owner argues that the Declaration of Robin Walker is firsthand evidence of industry praise "and how WesternGeco's revolutionary lateral

steering technology satisfied a longfelt need in the industry (Ex. 2077, ¶¶ 12–37) and ultimately contributed to billions of dollars in revenue (Ex. 2077, ¶¶ 47–51)." PO Resp. 48. Patent Owner, however, does not explain adequately how the Q-Marine product allegedly embodies the challenged claims in the '520 patent. Mr. Walker states specifically that

> [t]hrough 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, including those detailed below.

Ex. 2077 ¶ 12. The benefits described in the subsequent paragraphs of Mr. Walker's Declaration are apparently based on lateral steering technology, with the result that "better data quality could be achieved without the risk of costly downtime and damage due to streamer tangling." *Id.* at ¶ 15. It may be that Q-Marine provides a better, faster, more reliable and commercially successful 4D survey, but any commercial success enjoyed by the Q-Marine product is relevant only if the challenged claims are shown to embody those products. Patent Owner 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 Technology 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"). In the alternative, Patent Owner's evidence of commercial success does not outweigh the strong showing of obviousness made out by Petitioner in view of Workman. *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"). Accordingly, the alleged commercial success of the Q-Marine product does not support a conclusion of nonobviousness of the challenged claims in this case.

Additionally, based on our obviousness analysis of the dependent claims, above, because claims 2 and 19 include all the limitations recited in respective independent claims 1 and 18, claims 1 and 18 are also obvious based on our conclusion of obviousness of claims 2 and 19. *See Soverain Software LLC v. Victoria's Secret Direct Brand Mgmt., LLC, 778 F.3d 1311, 1315 (Fed. Cir. 2015; Ormco v. Align Tech.*, 498 F.3d 1307, 1319 (Fed. Cir. 2007) (when a dependent claim is "found to have been obvious, the broader claims . . . must also have been obvious").

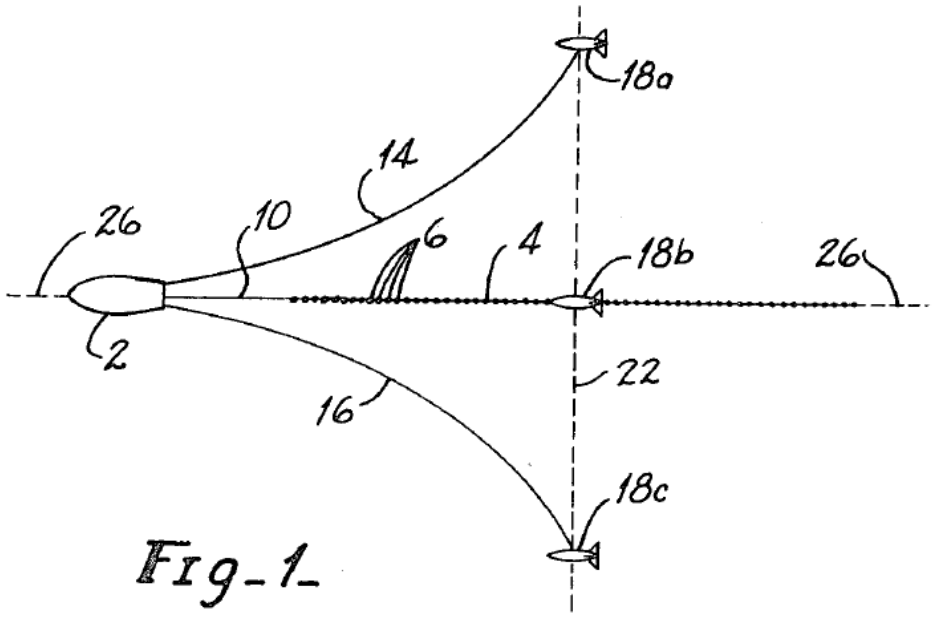
Accordingly, we conclude Petitioner has established by a preponderance of evidence that claims 1, 2, 18, and 19 would have been obvious under 35 U.S.C. § 103 in view of Workman.

C. Claims 1, 2, 18 and 19 – Anticipation by Hedberg

Petitioner asserts that claims 1, 2, 18, and 19 are anticipated by Hedberg. Pet. 38–46. Patent Owner contends among other things that Hedberg does not disclose "an array of streamers each having a plurality of streamer positioning devices there along," because the embodiment disclosing multiple SPD's on a single streamer is a different and disparate embodiment from those disclosing multiple streamers, which only disclose a single paravane on each streamer. PO Resp. 34–35. We have reviewed the parties' submissions and evidence discussed in those papers, and are not persuaded, by a preponderance of the evidence, that claims 1, 2, 18, and 19 are anticipated by Hedberg.

1. Overview of Hedberg

As illustrated below, Hedberg discloses a marine seismic exploration system including a streamer (cable) 10 towed behind vessel 2, the streamer having a plurality of echo sensors 6 (such as hydrophones) for sensing the echo of an impulse generating device. Ex. 1005, 1:3–13, 37–38.



The streamer is controlled by steerable paravane 18b connected to the streamer so as to be accurately towed along survey line 26. *Id.* at 1:18–30. As shown below in Figure 8, in another embodiment Hedberg also describes a streamer array for establishing a 3-dimensional sea floor profile, including three (3) parallel streamers 4a–c towed by the vessel. *Id.* at 6:10–19.

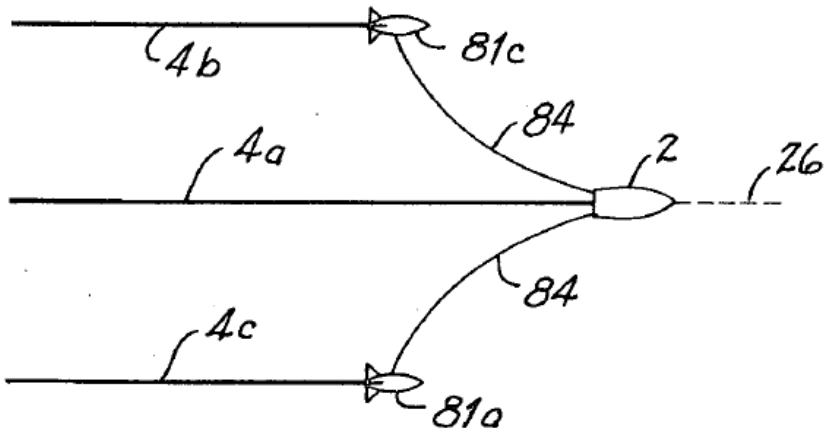


Fig_8_

To obtain an accurate 3-dimensional survey, the vessel tows streamers 4b and 4c, maintained in a spaced apart, parallel arrangement by paravanes 81a and 81c on either side of middle streamer 4a. *Id.* at 6:14–19.

In yet another embodiment, in order to overcome streamer positioning deviations, Hedberg discloses in Figures 10 and 11, shown below, streamer 90 controlled by a plurality of paravanes 92. *Id.* at 6:33–42.

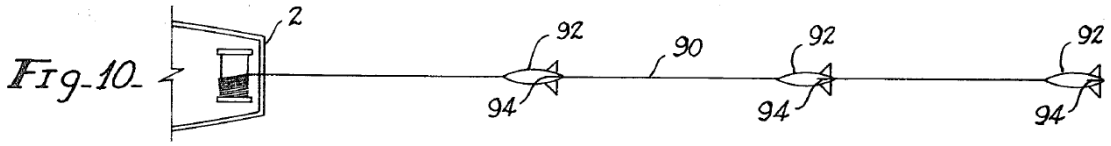


Figure 10 depicts a top view of streamer 90 having a plurality of paravanes 92 connected along the length of the streamer for controllably steering the streamer.

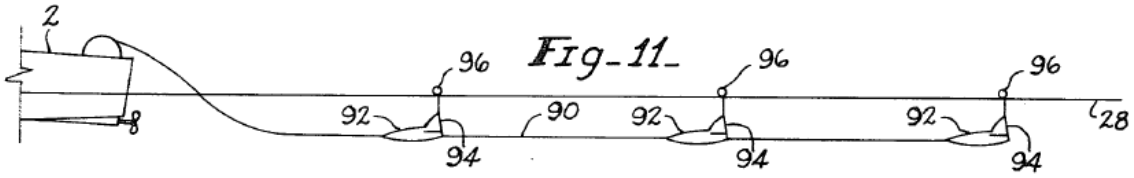


Figure 11 illustrates a side view streamer 90 and paravanes 92. Hedberg further explains that the "paravanes are provided with rudders and elevators or other steerable means . . . by which the position of the paravane, and the various elements or devices connected thereto, can be established and maintained." *Id.* at 6:41–46. The paravanes are described by Hedberg as carrying a radar reflector 96 corresponding to a radar control 98 on the vessel which determines positioning of the paravane and issues signals to steering motor 100 in the paravane to adjust the paravane rudders 94 "to maintain them in predetermined and accurate positions with respect to each other." *Id.* at 6:52–54.

2. Claims 1, 2, 18, and 19

The basis for Petitioner's anticipation argument is its assertion that Hedberg discloses a steerable marine seismic survey device having multiple streamers and steerable paravanes, i.e. an array, including "hydrophones or other echo responsive means at predetermined points spaced apart in two directions to provide a "cross spread' within a horizontal plane." Ex: 1005, 1:75–2:2, Fig. 8, *see also* Pet. 38. Petitioner contends specifically that an array of "hydrophone spreads," understood in the field as "streamers" are disclosed by Figure 8, shown above, specifically disclosing "the use of multiple spreads connected to recording instruments for developing three dimensional records of the profiles of areas under survey." Pet. 38 (citing Ex. 1005, 6:12–16). Petitioner further argues that collectively with the array shown in Figure 8 the embodiments disclosed in Hedberg's Figures 10–12 detail a streamer 90 having multiple paravanes, thereby "confirm[ing] that Hedberg discloses a plurality of paravanes (labeled 92) attached to each streamer." *Id.* at 39.

Although the embodiments in Hedberg provide certain similar disclosures, we are not persuaded that they disclose a single known marine seismic array system having multiple streamers each controlled by multiple SPD's that anticipates the challenged claims. Anticipation requires that every limitation of the claim at issue be disclosed in a prior art disclosure and "arranged or combined in the same way as recited in the claim." *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008). "[I]t is not enough that the prior art reference . . . includes multiple, distinct teachings that the artisan might somehow combine to achieve the claimed invention." *Id.*; *see also Kyocera Wireless Corp. v. ITC*, 545 F.3d 1340, 1351–52 (Fed. Cir. 2008) (concluding that a set of eleven specifications pertaining to the same telecommunication standard did not constitute a "single prior art reference").

Petitioner does not specifically argue that a single embodiment discloses all limitations of the challenged claims, instead relying on different embodiments as allegedly disclosing the array of streamers (Figure 8), and multiple SPD's on a single streamer (Figures 10–12). *See* Pet. 38–39. The relied upon embodiments undoubtedly are similar, as they each describe using SPD's to control streamer positions. There are differences, however, as, on one hand

> [a]s shown in FIG. 8, such spreads may be arranged in three parallel lines extending parallel to the direction of transverse of the area under survey, and the three records which are obtained can be utilized to establish a three dimensional profile or the seismic interface of the area under survey.

Ex. 1005, 6:14–19. On the other hand, Figures 10–12 are directed to a preferred embodiment for "a conventional spread of hydrophones, located in a single dimension of a horizontal plane." Ex. 1005 6:27–29. It is not clear

from our review of the written description in Hedberg that these embodiments are intended either expressly or inherently to be comprehensive or inclusive, in other words, as if the multiple SPD's on the single streamer embodiment are to be employed in the multiple spread arrangement detailing only a single SPD on each streamer.

Given that the prior art teachings and suggestions are found in different embodiments describing on one hand an array, as opposed to a single streamer embodiment, we find that one skilled in the art would not have at once envisaged the claimed arrangement of known components in a manner consistent with anticipation under 35 U.S.C. § 102. Petitioner has not demonstrated, by a preponderance of the evidence, therefore, that claims 1, 2, 18 and 19 of the '520 patent are anticipated by Hedberg.

D. Claims 1, 2, 18, and 19 – Obviousness over Hedberg

Petitioner's obviousness analysis with respect to Hedberg fails to provide any explanation or an articulated reasoning based on rational underpinnings, as to why one of ordinary skill in the art would have modified Hedberg's multiple streamer embodiment to include streamers provided with a plurality of SPD's. Pet. 46–49. Patent Owner argues that Petitioner has failed to explain why one of ordinary skill in the art would modify Hedberg to include a plurality of paravanes along the length of the single front-end paravane multiple streamer embodiment. PO Resp. 43–44. Patent Owner relies on its expert for support that adding further paravanes to Hedberg's streamer array would not be obvious to one of ordinary skill in the art. *Id.* To this point, Dr. Triantafyllou states that "Hedberg proposes the use of radar reflections in order to control the paravanes — but there is no recognition of the unique problems associated with lateral control of seismic streamers and streamer positioning devices." Ex. 2042 ¶ 127.

The entirety of Petitioner's obviousness analysis in the Petition with respect to Hedberg is directed to the obviousness of the claimed "streamer separation mode," and "feather angle mode." PO Resp. 43. Failing to address and provide sufficient articulated reasoning for modifying Hedberg to meet the limitations of independent claims 1 and 18, Petitioner has not sustained their initial burden of factually supporting a prima facie conclusion of obviousness. The key to supporting any prima facie conclusion of obviousness under 35 U.S.C. § 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Court in *KSR* (550 U.S. at 418) noted that the analysis supporting a rejection under 35 U.S.C.§ 103 should be made explicit. "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness" *Kahn*, 441 F.3d at 988, (cited with approval in *KSR*, 550 U.S. at 418.)

Accordingly, Petitioner has not demonstrated, by a preponderance of the evidence that claims 1, 2, 18 and 19 of the '520 patent are obvious over Hedberg.

E. 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). We address each of Patent Owner's arguments below. PO Resp. 49–59.

1. Whether ION is an Unnamed RPI

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, 77 Fed. Reg. 48,756, 48,764 (Aug. 14, 2012) ("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: [h]owever, 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*. 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 co-petitioner, 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. 53– 54.

Patent Owner's main contention for indemnification, and thus control by ION, focuses on an indemnification provision in the 2008 Master Purchase Agreement (Ex. 2069, "Agreeement") between PGSAS and Concept Systems Limited ("Concept"), an ION subsidiary. *Id.* at 49–50. The Agreement is considered protective order material in this proceeding. *See* Ex. 2069.

Patent Owner argues that the indemnification provision "reasonably includes defending against an infringement lawsuit, proving the invalidity of a patent in a review proceeding, and obtaining a license." PO Resp. 50. Patent Owner contends that Petitioner invoked this indemnification in its letter of November 13, 2012 to ION citing the above indemnification provision and stating "[i]f it turns out that ION or its affiliates did not have the proper patent licenses for the DigiFIN equipment and related components and services it sold us, we expect that ION will provide us with appropriate remedies." Ex. 2027. Patent Owner concludes that "ION thus has control, or at least the opportunity to control, the selection and implementation of a remedy that includes filing a petition for review." PO Resp. 51.

As an initial matter, nowhere in the asserted provision of the Agreement does it state that Concept (ION) has the right, or obligation, to defend a lawsuit or control litigation, a lawsuit, or undertake any type of invalidity proceedings such as the present IPR. We agree with Patent Owner that a reasonable interpretation of the indemnification provision could include obtaining a license. *Id.* at 50. 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 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. Petitioner's letter of November 13, 2012, does not actually "invoke" any certain part of the Agreement or refer to any necessity for ION to step in and defend a lawsuit, the letter refers only to "appropriate remedies." *See* Ex. 2027. In fact, a previous email sent July 6, 2012 from Phillip Shotts of ION to Kevin Hart at PGS, summarizing ION's Product Assurance Pledge, 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.

Based on the record before us 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. For example, "[t]he mere existence of an indemnification agreement [however] does not establish that the indemnitor has the opportunity to control an inter partes review." *Nissan North America, Inc. v. Diamond Coating Tech., LLC*, Case IPR2014- 01546, slip. op. at 7 (PTAB Apr. 21, 2015) (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)

Patent Owner argues still further that the nature of Petitioner and ION's close relationship shows that ION is controlling, or has the ability to control this IPR as an RPI. PO Resp. 51–53. Patent Owner argues specifically that "Petitioner and ION have coordinated efforts across multiple forums to promote their joint interests regarding the '520 patent," and that a common interest privilege was asserted by Petitioner over communications between ION and Petitioner. *Id.* at 52. 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 California*, 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 fact that Petitioner and ION, have a desire, and common interest, in invalidating the '520 patent and other WesternGeco patents, and have collaborated together, and invoked a common interest privilege with respect to sharing potentially invalidating prior art references, does not persuade us that ION has the ability to control the instant Petition or is directing or funding the present proceeding.

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. North America 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.

We have no such evidence in this proceeding. ION and Petitioner are not related corporate entities. The evidence of record here shows that Petitioner and ION preliminarily discussed potential remedies relating to the product itself, not indemnification from litigation. Exs. 2022, 2027. As discussed above, absent specific facts evidencing the contractual obligations of the parties, we are not apprised of any evidence from the Agreement indicative of control, or potential to control, this *inter partes* proceeding by ION. Furthermore, based on the record before us, Patent Owner has not established that ION has the ability or opportunity to control the present proceeding to the degree that would be expected from a formal copetitioner. As such, we are not persuaded that ION is an RPI to this proceeding, and the fact that the PGS Petition does not identify ION does not prevent the Board from considering Petitioner's grounds of unpatentability.

2. Additional Discovery

Patent Owner next argues that the Board prejudicially denied Patent Owner additional discovery on the RPI after "Petitioner failed to forthrightly answer Interrogatory No. 5." PO Resp. 56–57 (*citing* Ex. 2018 at 14). Our review of Exhibit 2018 indicates that contrary to Patent Owner's assertion, Petitioner unambiguously affirmed that Petitioner had made no claims or demands to ION for indemnity with respect to the '520 patent. Patent Owner also asserts that the Agreement, Exhibit 2069 was not available to the Board prior to our Decision to Institute. *Id.* at 57. As discussed above Exhibit 2069 is now available, and having been considered, for the reasons set forth above, does not alter our underlying determination above that ION is not a real party-in-interest.

3. 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 "interest[ed] parties concerning the subject matter of the '520 patent." PO Resp. 57–58 (*citing* Ex. 2076). 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 has any ability to control the present IPR proceeding. *See* Ex. 2076 (referring to Paragraph 2 of Order for Pretrial Conference as determinative of "financially interested" defendants.) Accordingly, we are not persuaded on these facts that Multi Klient is an RPI to this proceeding and deny Patent Owner's request for additional discovery into this matter.

4. Service

Under 35 U.S.C. § 315(b), a party may not file a petition for *inter partes* review if the party had been served with a complaint alleging infringement more than one year previously. Patent Owner argues that Petitioner was subpoenaed and "appeared" in the ION litigation prior to being "served" with a complaint alleging infringement of the '520 patent on March 14, 2011, and, therefore, "Petitioner's one year clock to file a petition started ticking at this time." PO Resp. 59.

A review of the litigation history establishes that on June 12, 2009, Patent Owner filed, via the court's electronic case filing procedure ("ECF"), a complaint initiating the ION lawsuit, alleging infringement of the '520 patent against ION based on ION's "DigiFIN" and other products. Ex. 2007. Patent Owner also filed a similar complaint against a company called Fugro, a customer of ION, which was consolidated with the ION lawsuit.

Ex. 2037. 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. Ex. 2008. Subsequently, 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. Ex. 2009. In response to the subpoena, Petitioner appeared in the ION lawsuit through its counsel, Heim, Payne & Chorush. Ex. 2011. On March 14, 2011, Patent Owner filed an amended complaint in the ION lawsuit via the court's electronic filing system ("ECF"), naming ION and Fugro, but not Petitioner. Ex. 2012. Patent Owner apparently believes that because Petitioner's counsel, as an ECF notice recipient in the ION lawsuit, received a copy of the amended complaint against Fugro and ION on March 14, 2011, Petitioner was therefore "served" in accordance with 35 U.S.C. § 315(b) the same day. *See* PO Resp. 59. Thus, it is Patent Owner's position that because Petitioner was "served" with the complaint more than one year before filing, the Petition here is now time-barred.

The Board has dealt with similar arguments regarding the statutory interpretation of 35 U.S.C. § 315(b) before in *Motorola Mobility LLC v. Arnouse Digital Devices Corp.*, Case IPR2013-00010 (PTAB Jan. 30, 2013) (Paper 20) (the "*Motorola* decision"). For reasons similar to those set forth in the *Motorola* decision, we do not adopt the statutory construction that mere receipt of a complaint, via email or even ECF, initiates the one-year time period. We specifically agree with the *Motorola* Panel's review and interpretation of the legislative history and intent of 35 U.S.C. § 315(b) in that, "[w]e do not believe that the Congress intended to have the time period start before a petitioner is officially a defendant in a law suit." *Id.* at 5.

Patent Owner specifically argues that the present proceeding differs from Motorola because in the ION lawsuit "Petitioner was served with process and formally appeared," (emphasis omitted) and was thus "'brought under a court's authority, by formal process' before being served with the amended complaint." Prelim. Resp. 7–8 n.1 (citing *Murphy Bros., Inc. v. Michetti Pipe Stringing, Inc.* 526 U.S. 344, 347 (1999)). Despite this factual difference from *Motorola*, Petitioner was not, and never has been, a party defendant in the ION lawsuit.

Petitioner, in the ION lawsuit, was served under Fed. R. Civ. P. 45, with a third party subpoena, to produce documents and things relating to the ION lawsuit. *See* Ex. 2009. Although a person, or entity, may have been served properly with a subpoena, and may fall under a court's authority for purposes of producing appropriate documents and things not protected by a privilege or protection, Fed. R. Civ. P. 45(c)–(e) does not express, or imply, that a person subject to the subpoena is a "defendant" to a lawsuit. Indeed, Fed. R. Civ. P. 45 specifically differentiates between a "person" served with the subpoena, and "a party" to the lawsuit. *See* Fed. R. Civ. P. 45 (d)(2)(B) ("A person commanded to produce documents or tangible things or to permit inspection may serve on the party or attorney designated in the subpoena a written objection to inspecting, copying, testing or sampling any or all of the materials."). We are aware of no case law or precedent, nor has Patent Owner cited to any, indicating that serving a person with a subpoena, and subjecting them to the authority of the court in enforcing such subpoena under Fed. R. Civ. P. 45(e), provides sufficient legal process to make such person a defendant to a lawsuit.

Thus, Petitioner was not a defendant in the ION lawsuit. Concomitant with our colleagues' *Motorola* decision, we interpret 35 U.S.C. § 315(b) as

requiring service upon a defendant to the lawsuit. Petitioner was not a defendant; thus, it was never "served with a complaint" in the ION lawsuit as required by 35 U.S.C. § 315(b).[8]

IV. MOTION TO EXCLUDE EVIDENCE

Petitioner filed a Motion to Exclude Evidence seeking to exclude portions of the testimony of Robin Walker (Ex. 2077) and numerous other exhibits submitted by Patent Owner. Paper 85. 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 excluding this evidence, we have determined that Petitioner has established, based on a preponderance of the evidence, the unpatentability of claims 1, 2, 18 and 19 of the '520 patent. Furthermore, from Petitioner's listed Exhibits on page 1 of its Motion to Exclude, our Decision includes only references to Exhibits 2007, 2012, 2034–36, and 2077. Exhibits 2007 and 2012 are referred to merely for background procedural dates, Exhibits 2034–2036 are identified as not being considered, and for Exhibit 2077, Petitioner's hearsay arguments do not pertain to the particular paragraphs of Mr. Walker's testimony that we substantively considered. *See* Section III.B.

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

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[8] Patent Owner's argument that S.D. Texas L.R. 5-1 "comports" (PO Resp. 59) with the proper interpretation of service under §315(b) is not persuasive as to the intent of Congress with respect to §315(b). *See* 157 Cong. Rec. S5429 (daily ed. Sept. 8, 2011) (statement of Senator Kyl) ("it is important that the section 315(b) deadline afford defendants a reasonable opportunity to identify and understand the patent claims that are relevant to the litigation").

V. CONCLUSION

We conclude that Petitioner has demonstrated by a preponderance of the evidence that (1) claims 1 and 18 of the '520 patent are anticipated by Workman, and (2) claims 1, 2, 18, and 19 of the '520 patent are unpatentable as obvious over Workman.

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.

VI. ORDER

For the reasons given, it is

ORDERED that claims 1, 2, 18, and 19 of U.S. Patent No. 7, 293,520 are determined by a preponderance of the evidence to be unpatentable;

FURTHER ORDERED that Patent Owner's request for additional discovery with respect to Multi Klient AS is denied;

FURTHER ORDERED that Petitioner's Motion to Exclude is denied; 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.

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