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Paper 33
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PETROLEUM GEO-SERVICES INC.,
Petitioner,

v.

WESTERNGECO LLC,

Patent Owner.

Case IPR2014-00678
Patent 6,691,038 B2

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

BUNTING, *Administrative Patent Judge*.

DECISION

Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Petroleum Geo-Service Inc. ("Petitioner") filed a Petition requesting *inter partes* review of claim 14 of U.S. Patent No. 6,691,038 B2 (Ex. 1001, "the '038 patent") pursuant to 35 U.S.C. §§ 311–319. Paper 2 ("Pet.").[1] Patent Owner, WesternGeco L.L.C. ("Patent Owner"), filed a Preliminary Response to the Petition on September 16, 2014. *See* Paper 27 ("Prelim. Resp."). We have jurisdiction under 35 U.S.C. § 314, which provides that an inter partes review may not be instituted "unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition."

II. BACKGROUND

Petitioner challenges the patentability of claim 14 (i.e., "the challenged claim") under 35 U.S.C. §§ 102(b), 102(e) and 103(a). Pet. 29. Upon consideration of the information presented in the Petition and Preliminary Response, we determine that Petitioner has not demonstrated that there is a reasonable likelihood that the challenged claim is unpatentable. Accordingly, we do not institute an inter partes review as to claim 14 of the '038 patent based on any of the asserted grounds.

A. Related Proceedings

Petitioner indicates that the '038 patent is the subject of the following judicial matters: *WesternGeco L.L.C. v. Petroleum Geo-Services, Inc.*, 4:13-cv-

[1] Petitioner filed both public and confidential versions of the Petition. Papers 1, 2.

03037 (S.D. Tex.); and *WesternGeco L.L.C. v. ION Geophysical Corp.*, 4:09-cv-01827 (S.D. Tex.). Pet. 5.[2]

B. The '038 Patent (Ex. 1001)

The '038 patent is directed to a sea-borne seismic acquisition tracking and positioning system that tracks the geometry of a towed seismic streamer array and the relative positions of each individual streamer forming the array elements, "so that the towed seismic array data acquisition runs are repeatable, thereby enabling acquisition of four-dimensional geophysical data (x, y, z, time)" (Ex. 1001, 2:16–23) as shown in Figure 1:

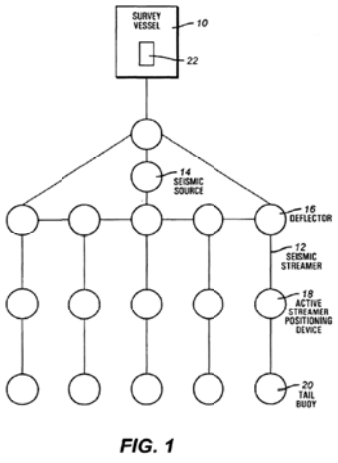

FIG. 1

Figure 1 is a schematic diagram illustrating the seismic data acquisition tracking and positioning system.

[2] Petitioner concurrently filed additional petitions challenging the patentability of related U.S. Patent No. 7,162,967 B2; U.S. Patent No. 7,080,607 B2; and U.S. Patent No. 7,293,520 B2. See IPR2014-00687; IPR2014-00688; and IPR2014-00689.

Specifically, active control units ("ASPDs") positioned on each of the streamers within the seismic array are used in controlling the relative horizontal and vertical positions of the streamers. *Id.*at 2:53–55; 3:1–5. The position of each streamer element (i.e. horizontal, vertical and depth) "is controlled, tracked and stored with respect to time during each seismic data acquisition run," and the stored data is referred to as legacy data. *Id.* at 2:55–60. The legacy data enables repetition of the same array geometry and path during subsequent seismic data acquisition runs in the presence of varying environmental and maneuverability conditions. *Id.* at 3:50–59. An array geometry tracking system tracks "the array geometry versus time during a seismic data acquisition run and stor[es] the array geometry versus time in a legacy database for repeating the array geometry versus time in a subsequent data acquisition run." *Id.* at 4:60–5:3.

The system also includes a master controller that "compares the positions of the streamers versus time and the array geometry versus time to a desired streamer position and array geometry versus time and issues positioning commands to the ASPDs to maintain the desired streamer position and array geometry versus time." *Id.* at 5:5–10. The array geometry may comprise a plurality of streamers at a uniform depth, a plurality of streamers at a plurality of depths for varying the temporal resolution of the array, or a plurality of streamers positioned along a plane rotated at an angle relative to the longitudinal axis of the array. *Id.* at 5:30–39; Figs. 3a, 3d, 4, and 5. The system determines and corrects inappropriately shaped arrays, "for example, elements in the array which become non symmetric are adjusted and moved into position so that array geometry errors in x, y, and z space are corrected and compensated." *Id.* at 10:15–20.

C. Illustrative Claim

Petitioner challenges claim 14 of the '038 patent as reproduced below:

> 14. A seismic streamer array tracking and positioning system comprising:
>
> a towing vessel for towing a seismic array;
>
> a seismic streamer array comprising a plurality of seismic streamers;
>
> an active streamer positioning device (ASPD) attached to each seismic streamer for positioning each seismic streamer;
>
> a master controller for issuing vertical and horizontal positioning commands to each ASPD for maintaining a specified array geometry;
>
> an environmental sensor for sensing environmental factors which influence the towed path of the towed array;
>
> a tracking system for tracking the streamer horizontal and vertical positions versus time during a seismic data acquisition run;
>
> an array geometry tracking system for tracking the array geometry versus time during a seismic data acquisition run, wherein the master controller compares the vertical and horizontal positions of the streamers versus time and the array geometry versus time to desired streamer positions and array geometry versus time and issues positioning commands to the ASPDs to maintain the desired streamer positions and array geometry versus time.

D. The Prior Art

Petitioner relies on the following prior art references (Pet. 11–19) and the Declaration of Dr. Brian J. Evans (Ex. 1002):

References	**Patents/Printed Publications**	**Date**	**Exhibit**
’895 Application	WO 00/20895	April 13, 2000	1003
EAGE	Simon Bittleston, et al., “Marine Seismic Cable Steering and Control,” EAGE 62nd Conference and Technical Exhibition – Glasgow, Scotland.	May 29 – June 2, 2000	1006
Morice	Stephen Morice et al., “4D-ready marine seismic data,” SEG International Exposition and Seventieth Annual International Meeting, Society of Exploration Geophysicists Expanded Abstracts, 2000 Technical Program, Volume II, p. 1607–1614.	August, 2000	1005
Canter PCT	WO 01/61380 A2	February 13, 2001	1004

E. The Asserted Grounds

Petitioner challenges claim 14 of the ’038 patent based on the alleged grounds of unpatentability set forth in the table below. Pet. 29.

Reference(s)	**Basis**
’895 Application	§ 102(b)
’895 Application	§ 103(a)
’895 Application, Morice	§ 103(a)
’895 Application, EAGE	§ 103(a)
Canter PCT	§ 102(e)
Canter PCT	§ 103(a)
’895 Application, Canter PCT	§ 103(a)
Canter PCT, Morice	§ 103(a)

III. ANALYSIS

A. Claim interpretation

As a step in our analysis for determining whether to institute a review, we determine the meaning of the claims for purposes of this decision. In an *inter partes* review, “[a] claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears.” 37 C.F.R. § 42.100(b); *see* Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,764, 48,766 (Aug. 14, 2012) (*Claim Construction*); *In re Am. Acad. of Sci. Tech. Ctr*., 367 F.3d 1359, 1364 (Fed. Cir. 2004). Under the broadest reasonable interpretation standard, claim terms generally are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art

in the context of the entire disclosure. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definition for a claim term must be set forth in the specification "with reasonable clarity, deliberateness, and precision." *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). In the absence of such a definition, limitations are not to be read from the specification into the claims. *See In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993).

Petitioner adopted Patent Owner's proposed claim constructions from the related district court proceeding for the following claim terms: "active streamer positioning device," "a master controller," "the master controller," "positioning commands," "maintaining a specified array geometry," and "environmental factors." Pet. 22–23. For purposes of this decision, we see no need to construe expressly the claim terms "active streamer positioning device," "a master controller," "the master controller," "positioning commands," and "environmental factors" in the challenged claim. The claim term "maintaining a specified array geometry" is addressed below within the context of construing the claim term "array geometry."

"versus time"

Relying on its Declarant, Dr. Evans, Petitioner takes the position that the broadest reasonable construction of the claim term "versus time" is "with respect to time." Pet. 23–28. Pointing to the Specification, Petitioner asserts there is "no indication whatsoever that 'versus time' has a meaning other than 'with respect to time.'" *Id.* at 24. Patent Owner proffers arguments alleging that the recitation of "versus time" "should be construed as relating to the time dimension of four-dimensional seismic data acquisition." Prelim. Resp. 27–35. According to Patent

Owner, "when claim 14 is read as a whole, the common element of the tracking, comparing, and issuing position commands is that **all of these actions** are done **versus time"**, reinforces that "versus time" "relates to the time dimension of a 4D survey." *Id.* at 29. Explaining further, Patent Owner asserts that "[e]very time the phrase 'versus time' is used in the specification, it is used to denote repeating a parameter at varying times, i.e., in a 4D survey: 'tracking the streamer positions versus time…for repeating the positions'; 'tracking the array geometry versus time…for repeating the array geometry."' *Id.* at 30.

Our review of the Specification reveals that the phrase "with respect to time" is used in conjunction with data acquisition during a seismic data acquisition run. For example, the Specification states "[t]he three component (x, y, z) position of each streamer element, relative to the vessel, relative to each other and relative Earth coordinate latitude and longitude is controlled, tracked and stored with respect to time during each seismic data acquisition run." Ex. 1001 2:55–60. At the same time, the Specification also states that this stored data is referred to as legacy data, and "enables repetition of seismic data acquisition runs." *Id.* at 2:66–67. Thus the phrase "versus time" is sometimes associated with the phrase "for repeating the positions versus time in a subsequent data acquisition," and is also used in referring to a present seismic data acquisition run. For example, the Specification discloses that "the apparatus further comprises a tracking system for tracking the streamer positions versus time during a seismic data acquisition run and storing the positions versus time in a legacy database for repeating the positions versus time in a subsequent data acquisition." *Id.* at 4:61–65.

To the extent Patent Owner argues "time" relates to a "time dimension" or "time component" during a seismic data acquisition, we agree. Prelim. Resp. 27–29, 32. Nonetheless, we are not persuaded by Patent Owner's further argument suggesting that "versus time" denotes repeating a parameter at varying times, as in a 4D survey, for the reasons noted above. Applying the broadest reasonable interpretation of "versus time" in light of the Specification, for purposes of this decision we construe "versus time" to mean "versus a time dimension." We decline, at this time, to import into the claim a further requirement that the data is repeatable over time in a 4-D survey.

"array geometry"

Patent Owner argues that "the broadest reasonable interpretation of the claim term 'array geometry' is distinct from the streamer positions, and the phrase 'maintaining a specified array geometry' requires maintaining a specified array shape, rather than simply replicating particular streamer positions." Prelim. Resp. 36. As previously indicated, Petitioner adopted Patent Owner's proposed construction of "maintaining array geometry" from the district court, as a "means to maintain or control 'the shape or path of the array.'" Pet. 34, citing Ex. 1002 ¶¶ 83, 94; Ex. 1015, 26. Relying on the Declaration of Dr. Evans, Petitioner asserts that "the broadest reasonable interpretation of "maintaining array geometry" means to maintain or control 'the shape or path of the array.' Pet. 34, citing Ex. 1002 ¶¶ 83, 94; Ex. 1015, 26.

Turning to the Specification, array geometry is described as "a plurality of streamers positioned at a uniform depth," as "a plurality of streamers positioned at a plurality of depths for varying temporal resolution of the array" or, as "a plurality

of streamers positioned along a plane, wherein the plane is rotated at an angel theta with respect to the longitudinal axis 35 of the array." Ex. 1001, 5:29–39. The Specification also discloses that the ASPD is used "to constrain and configure the shape of the seismic streamer 12 between deflector 16 and the tail buoy 20 in the vertical (z or depth) and horizontal (x, y) directions." *Id.* at 7:5–8. Further, the Specification describes how inappropriately shaped arrays are determined and corrected, i.e. "for example, elements in the array which become non symmetric are adjusted and moved into position so that array geometry errors in x, y, and z space are corrected and compensated by the present invention." *Id.* at 10:16–20. Accordingly, we determine that the broadest reasonable interpretation, consistent with the specification, of "array geometry" is a "specified array shape." Similarly, the broadest reasonable interpretation, consistent with the specification, of "maintaining a specified array geometry" is "maintaining a specified array shape."

For purposes of this decision, we need not construe expressly any of the other terms in the challenged claim at this time.

B. Anticipation Based on the '895 Application

Petitioner contends claim 14 is unpatentable under 35 U.S.C. § 102(b) as anticipated by the '895 Application because the '895 Application discloses each of the limitations of claim 14. Pet. 31 – 42. Petitioner cites the Declaration of Dr. Evans to support the analysis advocated in the Petition. Ex. 1002. Patent Owner counters that the '895 Application does not expressly disclose the tracking and maintenance of "array geometry" limitations of claim 14. Prelim. Resp. 41–42. We have considered the arguments and evidence presented, and are not persuaded

that the ’895 Application teaches the “array geometry” limitations. A detailed analysis of our determination follows after a brief overview of the ’895 Application.

1. Overview of the ’895 Application (Ex. 1003)

The ’895 PCT publication is a printed publication of International Application No. PCT/IB99/01590, filed September 28, 1999, and published as WO 00/20895 on April 13, 2000. Ex. 1003. The ’895 Application describes a method of controlling a streamer positioning device 18 attached to a marine seismic streamer 12 and towed by a seismic survey vessel 10. Ex. 1003, Abst. A plurality of streamers are arranged in an array. *Id.* at 5. Spaced along the length of each streamer are vertically and horizontally steerable control devices that “constrain the shape of the seismic streamer 12 between the deflector 165 and the tail buoy 20 in both the vertical (depth) and horizontal directions.” *Id.* at 6. A global control system 22 monitors the actual position of each control device and “maintains a dynamic model of each of the seismic streamers 12 and utilizes the desired and actual positions of the birds 18 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 7. Additionally, the global control system “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.* Another feature of the global control system is to monitor environmental parameters such as current speed, or current heading. *Id.* at 8. A further feature of the global control system is to monitor the positions of the

streamers and provide desired position information to the local control device. *Id.* at 18.

2. Analysis

Petitioner argues that the ’895 Application discloses the claim limitation of “maintaining a specified array geometry” in describing how “the 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*.” Pet. 34, citing Ex. 1003, 7. According to Petitioner, the feather angle control mode described in the ’895 Application maintains a specified array geometry, because the global control system “maintains a specified ‘feather angle’ array geometry by issuing vertical and horizontal positioning commands to position ‘each streamer in a straight line offset from the towing direction by a certain feather angle.’” Pet. 34, citing Ex. 1003, 18. Petitioner also cites Dr. Evans’ conclusion that the global control system “maintains a specified array geometry–defined by straight lines at a constant feather angle–in precisely the manner later claimed in the ‘038 patent.” *Id.* at 35, citing Ex. 1002 ¶¶ 94–95.

Petitioner’s contention, that the disclosure of horizontal and vertical positioning commands which move individual streamers from their actual to desired positions would meet the limitation of maintaining the specified array shape of a plurality of seismic streamers, is not persuasive. Although the Petitioner utilizes the feather angle control mode as an example of maintaining the specified array shape, this example is unconvincing because the global control system “attempts to keep each streamer in a straight line offset from the towing direction

by a certain feather angle" in the feather angle control mode Ex. 1003, 18. Thus, the feather angle disclosed in the '895 Application is concerned with maintaining the position of each individual streamer in a straight line offset from the towing vessel, and not in maintaining the specified array shape of a plurality of streamers in the array. Other than the conclusory statement of Dr. Evans, Petitioner does not point to sufficient evidence in the '895 Application tending to suggest that maintaining an individual streamer in a straight line is equivalent to maintaining the shape of an array of streamers.

Additionally, Petitioner argues that the '895 Application discloses the array geometry tracking system. Pet. 39–41. In particular, Petitioner references the description of how the global control system maintains a dynamic model of each of the seismic streamers 12 and "utilizes the desired and actual positions of the birds 18 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 40, citing Ex. 1003, 7. This argument is not convincing because the cited portion of the '895 Application refers to the positioning of individual seismic streamers, and not to the array geometry.

Presuming that the claim limitation "array geometry' is defined as the "shape or path of the array," and relying on the Declaration of Dr. Evans, Petitioner argues further that the "array geometry" "is comprised of nothing more than the vertical and horizontal positions of the individual streamers that comprise the array." Pet. 39, citing Ex. 1002 ¶ 108. Petitioner asserts that in addition to tracking individual streamer positions, the '895 Application tracks the complete streamer array, because the "streamer tracking and positioning system accounts for

'the behavior of each streamer and also takes into account the behavior of the complete streamer array.'" Pet. 40, citing Ex. 1003, 7. This argument is not persuasive. As noted, we do not include the "path of the array" in our interpretation of the claim term "array geometry" as the specified shape of the array. Petitioner's further argument directed to the statement in the '895 Application regarding taking "into account the behavior of the complete streamer array," also does not persuade us sufficiently that the referred to "behavior" is the specified shape of the array, or array geometry. Moreover, Petitioner does not provide sufficient evidence in this regard.

Petitioner also argues that the '895 Application discloses the limitation of "the master controller 'issues positioning commands to the ASPDs to maintain the desired streamer positions and array geometry versus time.'" Pet. 41. According to Petitioner, the '895 Application describes how the global control system issues force or location positioning commands to move birds from their actual positions to their desired positions, and "issues positioning commands to maintain the array geometry versus time in various modes, as previously discussed, such as a 'feather angle mode."' *Id.* at 41, citing Ex. 1003, 7, 11, and 18–19; Ex. 1017 ¶ 187. Petitioner's arguments regarding commands used to position individual streamers do not convince us that the '895 Application discloses the issuance of positioning commands for maintaining array geometry. As discussed *supra*, the feather control mode described in the '895 Application does not demonstrate sufficiently maintaining array geometry.

For these reasons, we agree with Patent Owner that Petitioner has not shown adequately that the '895 Application discloses the tracking and maintaining

of array geometry limitations of claim 14. Based on the current record, Petitioner has not demonstrated a reasonable likelihood that it would prevail with respect to its contention that claim 14 is anticipated by the '895 Application.

C. Anticipation Based on the Canter PCT

Petitioner contends claim 14 is unpatentable under 35 U.S.C. § 102(e) as anticipated by the Canter PCT because the Canter PCT discloses each of the limitations of claim 14. Pet. 46–55. Petitioner cites the Declaration of Dr. Evans to support the analysis advocated in the Petition. Ex. 1002. Patent Owner counters that the Canter PCT does not expressly disclose the tracking and maintenance positions and array geometry limitations of claim 14. Prelim. Resp. 50–53. We have considered the arguments and evidence presented, and are not persuaded that the Canter PCT teaches the limitations relating to vertical positioning commands, including tracking the vertical position of the streamers, comparing vertical positions, and issuing vertical positioning commands to the ASPDs. A detailed analysis of our determination follows a brief overview of the Canter PCT.

1. Overview of the Canter PCT

The Canter PCT publication is a printed publication of International Application No. PCT/IB01/00200, filed February 13, 2001, and published as WO 01/61380 on August 23, 2001. Ex. 1004. The Canter PCT describes a method of performing a marine seismic survey over the same subsurface area using a towed seismic source and a towed array of seismic streamers. Ex. 1004, Abst. In subsequent runs, the source and streamer array are depth-controlled and steered

laterally so that at least some of the streamer sensors occupy at least some the same positions as the source and sensors of the first survey. *Id.* The acquisition and processing of time-lapsed three dimensional seismic data signals over a particular subsurface area is referred to as 4D seismic data. *Id.* at 1. The methodology uses an array of second streamers similar to the array of first streamers, and steers "all of the second streamers to achieve substantially the same positions for at least some of the second sensors in each second streamer." *Id.* at 3. The seismic survey results in positional data used to determine "the shape of the path or track followed by each streamer 18 throughout the survey." *Id.* at 7. Based on the differences between the present and desired positions of the nodes for a steering controller, the steering controller produces a signal for the ASPDs (i.e. birds) to laterally steer the streamer to position the nodes. *Id.* at 7.

2. Analysis

Petitioner argues that the Canter PCT discloses every limitation of claim 14 either explicitly or inherently, including a "master controller for issuing vertical and horizontal positioning commands to each ASPD." Pet. 48. Acknowledging that the positioning commands disclosed in Canter refer to horizontal steering of streamers, Petitioner contends that Canter discloses controlling streamer depth as well. Pet. 50, citing Ex. 1004, 7. Specifically, Petitioner argues that "the source and streamer array used to perform surveys after the first are *depth-controlled* and steered laterally so that the source and at least some of the sensors in the streamers occupy at least some of the same positions as the source and sensors of the first survey." Id., citing Ex. 1004, Abstract. Each streamer has a plurality of birds,

according to Petitioner, "for controlling the streamer's depth and steering it laterally." Id., citing Ex. 1004, 5. Also relying on the testimony of Dr. Evans, Petitioner asserts that the '636 Application, which is incorporated by reference, "discloses birds that receive both horizontal and vertical positioning commands to 'control the streamers lateral position, as well as its depth.'" *Id.* at 51, citing Ex. 1002 ¶¶48–49, 136; Ex. 1021, Abst.

Patent Owner counters that the system in the Canter PCT does not disclose issuing vertical positioning commands to streamer positioning devices as required by claim 14. Prelim. Resp. 51. Explaining further, Patent Owner contends the Canter PCT discloses "a steering controller … produces … control signals for the birds, to cause them to laterally steer the streamer so that the nodes are as close as possible to their desired positions at the correct time." *Id.*, citing Ex. 1004, 7 (emphasis omitted). How the depth of the streamers is controlled is not clear, according to Patent Owner. *Id.* at 51–52. Further, Patent Owner asserts that the Canter PCT does not mention a master controller that issues vertical positioning commands. *Id.* at 52.

We agree with Patent Owner that Petitioner does not convincingly explain, nor does Petitioner point to sufficient disclosure in the Canter PCT, establishing how the depth of the streamer is controlled. The Canter PCT discloses that the system "produces inputs based on the difference between the present and desired future positions of the nodes 72 for a steering controller 74, which in turn produces at 76 control signals for the birds 38, to cause them to laterally steer the streamer 18 so that the nodes 72 are as close as possible to their desired positions at the correct time." Ex. 1004, 7. Based on this disclosure, we determined that the Canter

PCT describes horizontal positioning commands used to steer each ASPD laterally, but does not explicitly disclose issuing vertical positioning commands to steer each ASPD vertically.

Petitioner also argues that Canter discloses the tracking, comparing and controlling limitations of:

> a tracking system for tracking the streamer horizontal and vertical positions versus time during a seismic data acquisition run;
>
> an array geometry tracking system for tracking the array geometry versus time during a seismic data acquisition run, wherein the master controller compares the vertical and horizontal positions of the streamers versus time and the array geometry versus time to desired streamer positions and array geometry versus time and issues positioning commands to the ASPDs to maintain the desired streamer positions and array geometry versus time.

Id. at 51. Specifically, Petitioner relies on the Declaration of Dr. Evans in support of its contention that Canter discloses the tracking limitation by describing the acquisition of positional data through a 3D survey, and "in order to be useful for marine subsurface imaging and to comply with the ubiquitously followed industry standard, includes both lateral and vertical (depth) location information, as well as the time associated with the positional data. *Id.* at 51–52, citing Ex. 1002 ¶35; Ex. 1008 9–10. Petitioner also points to the disclosure in Canter regarding how "the shape of the path or track followed by each streamer 18 throughout the survey can be determined." *Id.* at 52; citing Ex. 1004 at 7.

With regards to the comparing and controlling limitations, Petitioner asserts that the Canter Application discloses these limitations in describing how

"sufficient positional data from the previous survey is loaded into the system 14 to define the respective tracks followed by the vessel, source and streamers used in the previous survey." *Id.* citing Ex. 1004, 7. Petitioner contends these passages describe the acquisition of positional data and production of inputs based on the difference between present and desired future positions to produce control signals to laterally steer the streamer. *Id.* at 52. The control system, according to Petitioner, "produces inputs based on the *difference between the present and desired future positions of* [pre-selected points along the streamer] for a steering controller 74, which in turn produces *control signals* at 76 for the birds 38, to cause them to laterally *steer* the steamer 18 so that the [streamers] are as close as possible to their desired positions *at the correct time*." *Id.* at 52–53.

Petitioner's arguments directed to the disclosure in Canter regarding the lateral (horizontal) tracking of streamer position, and based on the difference between the tracked and desired positions, providing control signals to laterally steer the streamer, does not sufficiently inform us that the streamer position is tracked, compared and controlled in the vertical direction. As such, we agree with Patent Owner that Petitioner has not demonstrated adequately that the Canter PCT discloses the vertical and horizontal positioning commands to steer each ASPD as required by claim 14. Based on the current record, Petitioner has not demonstrated a reasonable likelihood that it would prevail with respect to its contention that claim 14 is anticipated by the Canter PCT.

D. Obviousness Based on the '895 Application

Petitioner asserts additional grounds based in part on the '895 Application.

Pet. 42–46, 55–59. In particular, Petitioner asserts that claim 14 is unpatentable under 35 U.S.C. § 103 as obvious over the '895 Application; obvious over the '895 Application and Morice; obvious over the '895 Application and EAGE; and obvious over the '895 Application and Canter. *Id.* Petitioner relies on the disclosure in the secondary references of Morice, EAGE and Canter concerning a 4-dimensional seismic survey to supplement the teachings of the '895 Application. *Id.*

Having considered Petitioner's arguments concerning '895 Application and the combination of the '895 Application with Morice, EAGE or Canter, we are not persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail in demonstrating obviousness of the challenged claim. For the reasons provided above with regards to the anticipation analysis of the '895 application, we determine that Petitioner has not demonstrated sufficiently that the '895 Application discloses the "tracking and maintaining of array geometry limitations" of claim 14. Moreover, Petitioner does not rely on any disclosure of the secondary references to solve the noted deficiency of the '895 Application.

E. Obviousness Based on the Canter PCT

Petitioner further asserts that claim 14 is unpatentable under 35 U.S.C. § 103 as obvious over Canter, or as obvious over the combination of Canter and Morice. Pet. 55–57, 59. Petitioner relies on the disclosure in Morice concerning an environmental sensor to supplement the teachings of the Canter PCT. *Id.*

Having considered Petitioner's arguments concerning the Canter PCT and the combination of the Canter PCT with Morice, we are not persuaded that

Petitioner has demonstrated a reasonable likelihood that it would prevail in demonstrating obviousness of the challenged claim. For the reasons provided above with regards to the anticipation analysis of the Canter PCT, we determine that Petitioner has not demonstrated sufficiently that the Canter PCT discloses the issuance of vertical positioning commands to each ASPD limitations of claim 14. Moreover, Petitioner does not rely on any disclosure of the secondary references to solve the noted deficiency of the '895 Application.

F. 35 U.S.C. § 312(a)(2) and *35 U.S.C. § 315(b)*

Patent Owner proffers arguments asserting that 1) the Petition is time-barred under 35 U.S.C. § 315(b) because the Petitioner appeared in the ION litigation (Prelim. Resp. 12–16); 2) the Petition is time-barred because the Petitioner failed to name PGS Americas, Inc., as a real party-in-interest to this proceeding (*Id.* at 16–18); 3) the Petition is time-barred because the Petitioner failed to name ION as a real party-in-interest (*Id.* at 19–22); and 4) the Petition is time-barred because the Petitioner failed to name ION as a privy of Petitioner (*Id.* at 22–24).

Because the information presented in the Petition does not demonstrate a reasonable likelihood that Petitioner would prevail with respect to at least one of the challenged claims, we need not address Patent Owner's assertions that the Petition is time-barred under 35 U.S.C. § 315(b) based on real party-in-interest or privity.

IV. CONCLUSION

Based on the record before us, the information presented in the Petition does

not demonstrate a reasonable likelihood that Petitioner would prevail in showing that claim 14 is unpatentable.

V. ORDER

Accordingly, it is ORDERED that the Petition for *inter partes* review is DENIED.

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