Trials@uspto.gov
Tel: 571-272-7822

Paper No. 98
Originally Entered: March 27, 2017
Redacted Version: May 18, 2017

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

SEADRILL AMERICAS, INC.,
SEADRILL GULF OPERATIONS AURIGA, LLC,
SEADRILL GULF OPERATIONS VELA, LLC,
SEADRILL GULF OPERATIONS NEPTUNE, LLC,
Petitioner,

v.

TRANSOCEAN OFFSHORE DEEPWATER DRILLING, INC.,
Patent Owner.

---

Cases
IPR2015-01929 (Patent 6,047,781)
IPR2015-01989 (Patent 6,085,851)
IPR2015-01990 (Patent 6,068,069)

---

Before WILLIAM V. SAINDON, BARRY L. GROSSMAN, and TIMOTHY J. GOODSON, *Administrative Patent Judges*.

SAINDON, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Finding No Claims Unpatentable
Granting-In-Part Patent Owner's Motions to Seal without Prejudice
Denying Petitioner's Motion to Seal without Prejudice
Denying Petitioner's Motion to Exclude Evidence as Moot
Ordering Parties to Provide Redacted Copies of Papers and Evidence
*35 U.S.C. § 318(a)*; *37 C.F.R. §§ 42.54, 42.64, 42.73*

**PUBLIC VERSION WITH REDACTIONS**

# I. INTRODUCTION

We have jurisdiction under 35 U.S.C. § 6. We enter this Final Written Decision pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. We also address herein the parties' Motions to Seal and Petitioner's Motion to Exclude Evidence. Lastly, we order the parties to provide redacted copies of certain papers and evidence.

This Final Written Decision is for three proceedings. IPR2015-01929 addresses U.S. Patent No. 6,047,781 (Ex. 1001, "the '781 patent"). Upon consideration of Petitioner's Petition (Paper 5, "Pet.") in that proceeding, we instituted *inter partes* review on all claims challenged by Petitioner: claims 10–13 and 30. Paper 14 ("Dec. on Inst."). We focus our analysis on the arguments and evidence of this proceeding because it is representative of the three proceedings;[1] our citations herein are exclusively to papers and evidence in IPR2015-01929, except as otherwise noted. We also instituted an *inter partes* review of claim 10 of U.S. Patent No. 6,085,851 ("the '851 patent") in IPR2015-01989,[2] and of claims 17–19 of U.S. Patent No. 6,068,069 ("the '069 patent") in IPR2015-01990,[3] which represent all claims challenged by Petitioner in those proceedings.

After our Decision on Institution, Patent Owner filed a Response (Paper 44) and a Redacted Response (Paper 69, "PO Resp."). We cite to the

[1] Specifically, although the claims are slightly different in each proceeding, the grounds and arguments are effectively the same, and the evidence of obviousness and non-obviousness is the same.
[2] Paper 8 in IPR2015-01989.
[3] Paper 8 in IPR2015-01990.

Redacted Response herein. Petitioner then filed its Reply (Paper 72, "Pet. Reply") but not a Redacted Reply. An oral hearing was held February 13, 2017.

With respect to the grounds asserted in these trial, we have considered the papers submitted by the parties and the evidence cited therein. For the reasons discussed below, we determine that Petitioner has not shown, by a preponderance of the evidence, that any claims of the '781, '851, or '069 patents (together, the "challenged patents") are unpatentable.

### *A. Related Matters*

Petitioner represents that the following matters would affect, or be affected by, a decision in this proceeding: *Transocean Offshore Deepwater Drilling, Inc. v. Seadrill Americas, Inc.*, Civil Action No. 4:15-cv-00144 filed on January 16, 2015, in the U.S. District Court for the Southern District of Texas; *Transocean Offshore Deepwater Drilling, Inc. v. Pacific Drilling SA*, Civil Action No. 4:13-cv-1088, filed on April 16, 2013, in the U.S. District Court for the Southern District of Texas. Pet. 1–2; Paper 7, 1.

Patent Owner indicates that the challenged patents have been asserted against other parties in other lawsuits, some of which we address next. Paper 9 ("Prelim. Resp."), 2.

### *B. Partial Prior Litigation History*

Although Petitioner was not a party, the challenged patents have been involved in prior litigation including *Transocean Offshore Deepwater Drilling, Inc. v. Pacific Drilling SA*, Civil Action No. 4:13-cv-1088 (S.D. Tex.) (hereinafter the "*Pacific* Lawsuit"), *Transocean Offshore Deepwater*

*Drilling, Inc. v. GlobalSantaFe Corp.*, Civil Action No. 4:03-cv-02910 (S.D. Tex.) (hereinafter the "*GlobalSantaFe* Lawsuit"), *Transocean Offshore Deepwater Drilling, Inc. v. Stena Drilling Ltd.*, Civil Action No. 4:08-cv-03287 (S.D. Tex.) (hereinafter the "*Stena* Lawsuit"), and *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA Inc.*, Civil Action No. 4:07-cv-02392 (S.D. Tex.) (hereinafter the "*Maersk* Lawsuit"). Pet. 4, 49; Prelim. Resp. 2–3. The *Maersk* Lawsuit included two successive appeals *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc.*, 617 F.3d 1296 (Fed. Cir. 2010) (hereinafter "*Transocean I*") and *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Drilling USA, Inc.*, 699 F.3d 1340 (Fed. Cir. 2012) (hereinafter "*Transocean II*"). Prelim. Resp. 3–4.

The District Court in the *Pacific* Lawsuit held a *Markman* hearing and construed several limitations of the challenged patents. Ex. 1009. *Markman* hearings were also conducted in the *Stena* Lawsuit (Ex. 2005), the *GlobalSantaFe* Lawsuit (Ex. 2007), and the *Maersk* Lawsuit (Ex. 2006). In the *Maersk* Lawsuit, the District Court granted summary judgment for defendant, *inter alia*, on invalidity of all asserted claims based on obviousness. *Transocean I*, 617 F.3d at 1302. On appeal, the Federal Circuit held "that the teachings of the references as well as th[e] reason to combine support a *prima facie* case that the claims would have been obvious to one of ordinary skill in the art" (*id.* at 1304) but reversed the grant of summary judgment in part "[b]ecause there remain genuine issues of material fact regarding objective evidence of nonobviousness." *Id.* at 1313; *see also id.* at 1304–05 (disagreeing that the district court "is required to

consider only the first three [*Graham*] factors" and determining that "the district court ignored . . . objective evidence of nonobviousness").[4] On remand, after review of the evidence of nonobviousness, a jury found that the defendant had not established by clear and convincing evidence that the claims were obvious, but the district court granted a motion for judgment as a matter of law (JMOL) that the claims were invalid as obvious. *Transocean II*, 669 F.3d at 1346. On appeal, the Federal Circuit reversed the district court's grant of JMOL, finding that the jury's findings regarding objective evidence of nonobviousness were supported by substantial evidence. *Id.* at 1349–55.

### *C. The Challenged Patents*

The '781 patent is directed to a multi-activity offshore drilling apparatus, such as a drillship. Ex. 1001, Abstract. The apparatus has a single derrick but multiple tubular activity stations, such that primary drilling activity and auxiliary drilling activity may be conducted from the same derrick at the same time. *Id.*; *see also* Ex. 1007 ¶¶ 17–34; Prelim. Resp. 5–12 (providing background information on conventional and multi-activity drilling).

The '781 patent states that it is a continuation of the application that issued as the '851 patent. Ex. 1001, at [63]; Case IPR2015-01989, Ex. 1001, at [21]. The '069 patent states that it is a continuation of the application that issued as the '781 patent. Case IPR2015-01990, Ex. 1001, at [63]. Thus,

[4] The references referred to by the Federal Circuit as demonstrating a prima facie case of obviousness are also asserted in this proceeding.

the challenged patents "share a common specification." *Transocean I*, 617 F.3d at 1300.

### *D. Challenged Claims*

Petitioner challenges claims 10–13 and 30 of the '781 patent, claim 10 of the '851 patent, and claims 17–19 of the '069 patent. Claims 10 and 30 of the '781 patent are reproduced below.

> 10. A multi-activity drilling assembly operable to be mounted upon a drilling deck of a drillship, semi-submersible, tension leg platform, jack-up-platform, or offshore tower and positioned above the surface of a body of water for supporting drilling operations through the drilling deck, to the seabed and into the bed of the body of water, said multi-activity drilling assembly including:
>
> a derrick operable to be positioned above a drilling deck and extending over an opening in the drilling deck for simultaneously supporting drilling operations and operations auxiliary to drilling operations through the drilling deck;
>
> a first top drive positioned within the periphery of said derrick;
>
> a first drawworks positioned adjacent to said derrick and operably connected to a first traveling block positioned within said derrick adjacent to said top drive for conducting drilling operations on a well through the drilling deck;
>
> a second top drive positioned within the periphery of said derrick;
>
> a second drawworks positioned adjacent to said derrick and operably connected to a second traveling block positioned within said derrick adjacent to said second top drive for conducting drilling operations or operations auxiliary to said drilling operations extending to the seabed for the well; and
>
> means positioned within said drilling derrick for transferring tubular assemblies between a first top drive station and a second top drive station to facilitate simultaneous drilling operations and operations to the seabed auxiliary to said drilling operations, wherein drilling activity can be conducted within said derrick with said first or second top drive, said first or second drawworks

and said first or second traveling block and auxiliary drilling activity extending to the seabed can be simultaneously conducted within said derrick with the other of said first or second top drive, the other of said first or second drawworks and the other of said first or second traveling block.

30. A multi-activity drilling assembly operable to be supported from a position above the surface of a body of water for conducting drilling operations into the bed of the body of water, said multi-activity drilling assembly including:

a drilling superstructure operable to be mounted upon a drilling deck for simultaneously supporting drilling operations for a well and operations auxiliary to drilling operations for the well;

first means connected to said drilling superstructure for advancing tubular members into the bed of body of water, wherein said first means includes a first means for hoisting tubular members;

second means connected to said drilling superstructure for advancing tubular members simultaneously with said first means into the body of water to the seabed, wherein said second means includes a second means for hoisting tubular members; and

means positioned adjacent to said first and second means for advancing tubular members for transferring tubular assemblies between said first means for advancing tubular members and said second means for advancing tubular members to facilitate simultaneous drilling operations auxiliary to said drilling operations, wherein drilling activity can be conducted for the well from said drilling superstructure by said first means for advancing tubular members and auxiliary drilling activity can be simultaneously conducted for the well from said drilling superstructure by said second means for advancing tubular members.

Claim 10 is the sole challenged claim of the ’851 patent, and is independent. It is generally similar to claim 30 of the ’781 patent reproduced above except that it does not recite that first and second “means

for hoisting tubular members" are included in the first and second "means . . . for advancing tubular members."

Claim 17 is the sole independent claim challenged of the '069 patent. It is similar to claim 10 of the '781 patent reproduced above, but recites first and second "tubular advancing station[s]" instead of separately listing top drives and drawworks, and claims "an assembly . . . operable to transfer tubular assemblies between said first tubular advancing station and said second" rather than the "means . . . for transferring" in claim 10 of the '781 patent.

### *E. Prior Art and Instituted Grounds*

We instituted *inter partes* review on the following grounds asserted by Petitioner:

| **Reference(s)** | **Basis** | **Claim(s) Challenged** |
|---|---|---|
| Lund,[5] Horn,[6] Rike,[7] Baker,[8] and Chevron S-55[9] | § 103 | '781 patent: 10–13 and 30<br>'851 patent: 10<br>'069 patent: 17–19 |
| Lund, Horn, Moore,[10] Baker, and Varco[11] | § 103 | '781 patent: 10–13 and 30<br>'851 patent: 10<br>'069 patent: 17–19 |
| Lund | § 102 | '781 patent: 30 |

[5] U.S. Patent No. 4,850,439, issued July 25, 1989 (Ex. 1002).
[6] U.K. Patent App. GB 2,041,836 A, published Sept. 17, 1980 (Ex. 1004).
[7] J. L. Rike and R. G. McGlamery, *Recent Innovations in Offshore Completion and Workover Systems*, Offshore Technology Conference (1969) (Ex. 1014).
[8] R. Baker, *A Primer of Oilwell Drilling*, (5th ed. 1994) (Ex. 1010).
[9] C.V. Norton, 3:3 *Ocean Industry* 1–3 (1968) (excerpt) (Ex. 1015)
[10] U.S. Patent No. 3,658,298, issued Apr. 25, 1972 (Ex. 1003).
[11] *Varco®BJ™ General Catalog* 1992–1993 (Ex. 1011).

| Reference(s) | Basis | Claim(s) Challenged |
|---|---|---|
| | | |
| | | ’851 patent: 10<br>’069 patent: 17 and 18 |

## II. MOTIONS

### *A. Motions to Seal*

#### *1. Petitioner’s Motion to Seal*

Petitioner moves to seal 90 exhibits listed in a table in its motion. Paper 71, 1–6. Petitioner also submitted its Reply under seal, but does not list the Reply in its Motion to Seal. Petitioner does not explain why the exhibits (or its Reply) contain confidential information, instead making a global allegation that they “contain mostly information that has been designated confidential in this proceeding or in a related district court proceeding,” and that “[s]ome may also include confidential trade secret, research, or development information.” Paper 71, 1. Petitioner makes no effort to identify why each document should be designated confidential, however. Some appear to be publicly-disseminated documents, such as Exhibit 1146, which includes a published article from “Maritime Reporter and Engineering News.” However, a number of documents appear to be truly confidential information. Accordingly, we deny Petitioner’s Motion to Seal (Paper 71), with leave to refile. The Reply and subject exhibits will remain under seal provisionally until we have ruled on any refiled motion, or if no motion is refiled, until at least 45 days after final judgment (including resolution of any appeal).

*2. Patent Owner's Motions to Seal*

Patent Owner filed a First Motion to Seal Exhibits 2066 and 2067. Paper 23. Patent Owner later filed a Supplement to its Motions to Seal that indicated it no longer sought to seal these exhibits. Paper 73, 3. Accordingly, Patent Owner's First Motion to Seal is dismissed as moot.

Patent Owner filed a Second Motion to Seal Exhibits 2077, 2080, 2083, 2093–2103, 2107–2112, 2114–2119, 2130–2132, 2137, 2141, 2142, 2148, 2149, 2152, 2165, 2174, 2188, 2193, 2194, 2200, and 2201. Paper 46. Patent Owner later filed a Supplement to its Motions to Seal that indicated it no longer sought to seal Exhibits 2083, 2093, 2095, 2096, 2098, 2100, 2137, 2141, 2142, and 2188 (Paper 73, 3–4); the Motion is dismissed as moot as to these exhibits. Patent Owner's Supplement to its Motion to Seal also indicated that much of the confidential information was of third parties, and that it has submitted as Exhibits 2218 and 2219 the arguments of those third parties in support of Patent Owner's Motions to Seal. *Id.* at 2.

Third party Pacific Drilling, Inc. provides arguments in support of Patent Owner's Motion to Seal Exhibits 2077, 2099, 2102, 2107, 2110, 2111, 2112, 2115, 2118, 2131, 2132, 2152, and 2165, as well as certain portions of Patent Owner's Response. Exhibit 2218. Pacific's arguments contain a detailed explanation for why each exhibit contains sensitive, confidential business information. *Id.* We have reviewed these documents and Pacific's explanation and grant Patent Owner's Motion to Seal Exhibits 2077, 2099, 2102, 2107, 2110, 2111, 2112, 2115, 2118, 2131, 2132, 2152, and 2165, as well as certain portions of Patent Owner's Response. Pacific also notes that Patent Owner moved to seal Exhibits 2114, 2116, 2117, 2119,

2148, and 2149, but that Pacific no longer requests these documents to remain under seal. Ex. 2218, 11. Accordingly, Patent Owner's Motion to Seal Exhibits 2114, 2116, 2117, 2119, 2148, and 2149 is denied.

Third Party Stena Drilling, Ltd. provides arguments in support of Patent Owner's Motion to Seal Exhibits 2077, 2080, 2094, 2101, 2200, and 2201. Ex. 2219. Stena's arguments contain a detailed explanation for why each exhibit contains sensitive, confidential business information. We have reviewed these documents and Stena's explanation and grant Patent Owner's Motion to Seal Exhibits 2077, 2080, 2094, 2101, 2200, and 2201.

Patent Owner offers its arguments for the remaining exhibits. Exhibits 2193 and 2194 contain the IHS Petrodata database information, and is thus information owned by that company. Paper 46, 6. Patent Owner provided a redacted version that indicates the fields of the report along with some information about various timeframes and filters used. Ex. 2193. Given our treatment of this information below, the redacted version provides sufficient notice of the information contained in the exhibit upon which we relied to make our decision. We grant Patent Owner's Motion to Seal Exhibits 2193 and 2194.

Patent Owner moves to seal Exhibits 2094, 2097, and 2174. Paper 46, 7–8. Exhibit 2094 is a license agreement with Stena. Exhibit 2097 is a spreadsheet showing revenue received by Patent Owner from licensing its patents. Exhibit 2174 is a contract with one of the inventors regarding royalty payments. These exhibits each discuss sensitive, confidential business information. The Motion to Seal Exhibits 2094, 2097, and 2174 is granted.

Patent Owner moves to seal Exhibits 2103, 2108, and 2109, which it asserts are third party Stena's confidential information. Paper 46, 6. These exhibits were not discussed in Stena's arguments in support of Patent Owner's motion. *See* Ex. 2219. Accordingly, no arguments have been presented in favor of maintaining the confidentiality of these documents and the Motion to Seal Exhibits 2103, 2108, and 2109 is denied, with leave to refile. The exhibits will remain under seal provisionally until we have ruled on any refiled motion, or if no motion is refiled, until at least 45 days after final judgment (including resolution of any appeal).

Patent Owner moves to seal Exhibit 2130, which it alleges is Petitioner's confidential information. Paper 46, 3, 5. Because we did not rely on this information in our Decision, we grant the Motion to Seal Exhibit 2130.

We also grant Patent Owner's motion to seal the Patent Owner Response, which discusses information contained in the exhibits discussed above. Although we do not grant the motion as to some of the material, for the reasons expressed above, we nevertheless grant the motion. To the extent the Response includes redactions regarding exhibits for which the motion is denied, reference of the unsealed documents will provide disclosure of the material originally redacted.

Finally, Patent Owner moves to seal Paper 88, which contain Patent Owner's demonstratives presented during oral hearing. Paper 90. The demonstratives merely serve as a visual aid to the presentation and are limited to evidence and argument already made. Accordingly, the material that is allegedly confidential is the same information discussed above. We

grant Patent Owner's Motion to Seal Paper 88 for the reasons set forth above. For those exhibits cited in the demonstratives where the motion was denied, we nevertheless grant the motion as the public has little interest in the content therein because our Decision cannot be based upon it, and the redacted version of the demonstratives (Paper 89) provides sufficient public notice of the content of the slides.

*3. Motions to Seal in IPR2015-01989 and IPR2015-01990*

We note that IPR2015-01989 and IPR2015-01990 contain nearly identical motions and exhibits. In IPR2015-01989, Patent Owner's motions are found in Papers 18, 41, 70, and 87, and the exhibits sought to be sealed are the same as in IPR2015-01929. Petitioner's motion is found in Paper 68, and the exhibits sought to be sealed are the same as in IPR2015-01929. In IPR2015-01990, Patent Owner's motions are found in Papers 18, 41, 69, and 85, and the exhibits sought to be sealed are the same as in IPR2015-01929. Petitioner's motion is found in Paper 66, and the exhibits sought to be sealed are the same as in IPR2015-01929. Thus, our ruling with respect to IPR2015-01929 on these motions directly applies to the exhibits in IPR2015-01989 and IPR2015-01990, and to the appropriate paper number for Patent Owner's Response and demonstratives in those proceedings.

*4. Confidential Information Cited in This Decision*

We also remind the parties that, although we have granted one or more motions to seal documents, we may unseal portions of those documents, notwithstanding, to allow for sufficient disclosure to the public of the factual bases of our Decision. For example, if we cite to a portion of

an exhibit, and that portion of the exhibit is redacted, we may look to unseal that portion of the exhibit. As set forth in our Order below, the parties are required to suggest redactions to this Decision, with input from the affected third parties, as applicable, and provide a motion to seal this Decision. This Decision will be entered under seal provisionally until we rule on any such motion. If our ruling denies or denies-in-part any such motion, the parties will be given at least one opportunity to refile.

### *B. Motion to Exclude*

Petitioner filed a Motion to Exclude Evidence (Paper 80), to which Patent Owner filed a Response (Paper 84) and Petitioner filed a Reply (Paper 85). Petitioner moves to exclude the testimony of Claude E. Cooke, Jr., Ph.D., in Exhibit 2077. Paper 80, 17. Patent Owner relies on the testimony of Dr. Cooke for purposes of analysis of its secondary considerations evidence, specifically as to the nexus. Paper 84, 2. In our Decision below, we do not rely on Dr. Cooke's testimony except in one instance in which we find his testimony not credible. Accordingly, we deny Petitioner's Motion to Exclude as moot, as we do not rely on it.

## III. PATENTABILITY ANALYSIS

### *A. Claim Construction*

We interpret the claims of an unexpired patent using the broadest reasonable interpretation in light of the specification of the patent. 37 C.F.R. § 42.100(b). We interpret the claims of an expired patent, however, using the claim construction standards used in district court, i.e., those outlined in *Phillips*. *Id.*; *see In re Rambus, Inc.*, 753 F.3d 1253, 1255–56 (Fed. Cir.

2014) ("If, as is the case here, a reexamination involves claims of an expired patent, a patentee is unable to make claim amendments and the PTO applies the claim construction principles outlined by this court in *Phillips v. AWH Corp.*, 415 F.3d 1303 [(Fed. Cir. 2005)" (en banc).). According to Patent Owner, the challenged patents expired on May 3, 2016. Prelim. Resp. 20; *see, e.g.*, Ex. 1006, 161 (terminal disclaimer limiting the '781 patent to the term of the patent issued from application 08/642,417, i.e., U.S. Pat. No. 6,085,851, filed May 3, 1996). We construed the claims using a *Phillips*-type analysis in our Decision on Institution, and will do so here.

*1. Terms in IPR2015-01929*

In our Decision on Institution, we construed the terms "second means . . . for advancing tubular members," of claim 30, and "means . . . for transferring tubular assemblies," of claims 10 and 30. Dec. on Inst. 9–10. Neither party alleges an error in those constructions or advocates different constructions. Upon re-consideration of our constructions in view of the record at this time, we adopt those prior constructions for purposes of this Decision (reproduced below). Further, no remaining terms are at issue in this Decision,[12] such that we do not construe them explicitly at this time. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (only those terms or phrases that are in controversy need to be construed, and only to the extent necessary to resolve the controversy).

[12] We recognize that Patent Owner argues that claims 10 and 30 refer to a single well. PO Resp. 2. We need not reach this issue in our analysis because our Decision does not turn on the construction of this term.

Our prior constructions are as follows. A "second means . . . for advancing tubular members" performs the function of "advancing tubular members simultaneously with said first means into the body of water to the seabed" and a structure of "drawworks, or structural equivalents." Dec. on Inst. 9–10 (citing Pet. 7–8 (citing Ex. 1001, 6:62–7:20, 7:35–40, 18:19–27)); Ex. 1001, 6:62–67 ("drawworks and other functionally equivalent systems . . . provide a means for . . . advancing and retrieving tubular members"). A "means . . . for transferring tubular assemblies" performs the function of transferring tubular assemblies and has a corresponding structure of a "rail supported pipe handling system," "a rugged overhead crane structure within the derrick," or structural equivalents. Dec. on Inst. 10 (citing Pet. 6–7; Prelim. Resp. 25); *accord* Ex. 1009, 3; Ex. 2005, 2; Ex. 2007, 17; Ex. 2006, 18–19 (district court constructions of this term).

*2. Terms in IPR2015-01989*

In our Decision on Institution of this proceeding (IPR2015-01989, Paper 8), we construed the terms "second means . . . for advancing tubular members" and "means . . . for transferring tubular assemblies." IPR2015-01989, Paper 8, 7–10. We also construed these terms under *Phillips*. *Id.* at 7. Patent Owner's Redacted Response in IPR2015-01989 does not address our construction of these terms and instead proposes a construction that claim 10 requires one well. IPR2015-01989, Paper 39, 2.[13]

[13] Patent Owner attempted to file its redacted version of the Response as Paper 66, but Paper 66 is a redacted version of the Response in IPR2015-01929. Per our Order below, Patent Owner shall file a redacted version of Paper 39 of IPR2015-01989.

Petitioner's Reply in IPR2015-01989 does not address our construction of these terms and instead addresses Patent Owner's proposed construction regarding one well. IPR2015-01989, Paper 69, 6–8. A construction regarding one well does not affect our analysis, as is explained in our analysis of Petitioner's obviousness ground below. As such, we do not construe any further terms and, upon reconsideration of our prior construed terms, adopt our prior constructions.

Specifically, we construe "second means . . . for advancing tubular members" as a means-plus-function limitation with the function of advancing tubular members simultaneously with said first means into the body of water to the seabed and with a corresponding structure as a drawworks and equivalent structures. IPR2015-01989, Paper 8, 7–9. We construe "means . . . for transferring tubular assemblies" as a means-plus-function limitation with the function of transferring tubular assemblies and with a corresponding structure of a rail supported pipe handling system, a rugged overhead crane structure within the derrick, or structural equivalents. *Id.* at 9–10.

*3. Terms in IPR2015-01990*

In our Decision on Institution of this proceeding (IPR2015-01990, Paper 8), we construed the terms "tubular advancing station" and "assembly . . . operable to transfer tubular assemblies." IPR2015-01990, Paper 8, 7–9. We also construed these terms under *Phillips*. *Id.* at 6–7. Patent Owner's Redacted Response in IPR2015-01990 does not address our construction of these terms and instead proposes a construction that claim 17 requires one well. IPR2015-01990, Paper 65, 2. Petitioner's Reply in IPR2015-01990

does not address our construction of these terms and instead addresses Patent Owner's proposed construction regarding one well. IPR2015-01990, Paper 68, 6–7. A construction regarding one well does not affect our analysis, as is explained in our analysis of Petitioner's obviousness ground below. As such, we do not construe any further terms and, upon reconsideration of our prior construed terms, adopt our prior constructions.

Specifically, we construe "tubular advancing station" as "an assembly of equipment capable of advancing tubular members to the seabed." IPR2015-01990, Paper 8, 7–8. We construe "assembly . . . operable to transfer tubular assemblies" as a means-plus-function limitation with a function of "transferring tubular assemblies directly between advancing stations or indirectly through a setback envelope" and a corresponding structure of "overhead derrick cranes, rail supported pipe handlers, or equivalent structure." *Id.* at 8–9.

### *B. Overview of the Prior Art and Asserted Grounds*

#### *1. The Level of Ordinary Skill in the Art*

Petitioner proposes that a person of ordinary skill in the art typically had a bachelor's degree in mechanical, chemical, or related engineering plus 5 years of experience in the oil production industry. Pet. 4 (citing Ex. 1007 ¶ 15). Patent Owner does not explicitly offer a level of ordinary skill in the art, but states in some of its briefing that the parties do not generally disagree on the level of ordinary skill. Paper 84 (Patent Owner's Opposition to Motion to Exclude the testimony of Dr. Cooke), 3 ("[t]he parties also agree generally as to the level of ordinary skill"). Based on the testimony of Mr. Schaff (Ex. 1007 ¶ 15) and the disclosures of the prior art, we adopt

Petitioner's proposed definition of the level of ordinary skill in the art.

*2. Lund*

Lund discloses a drilling vessel with a derrick having a drilling hoist and a preparation hoist. Ex. 1002, 6:56–65. The drilling hoist has a top drive and is used to carry heavy loads, such as a complete drill string. *Id.* at 6:56, 6:65–67. The preparation hoist is weaker and "should normally only be able to carry a drill string or well casing stand or a bottomhole assembly part, having a length in the order of 20 m." *Id.* at 6:67–7:2. In general, the drilling hoist drills using a drill string while the preparation hoist assembles drill tube sections that later will be added to the drill string. *See id.* at 7:47–9:65. Thus, unlike the claims, the second hoist in Lund is incapable of being used for drilling, as it has no associated top drive or rotary table. Pet. 23 ("Lund does not provide the preparation hoist with a top drive because its main purpose is to make up tubular assemblies while the drill hoist is drilling.") (citing Ex. 1002, 3:21–46; Ex. 1007 ¶ 72).

*3. Horn*

Horn discloses a drilling vessel having a derrick with the ability to drill using two drill strings at the same time. Ex. 1004, 1:72–76. Horn describes rotary tables rather than top drives. *Id.* at 2:44–45. Further, Horn describes the derrick is configured to have two drill strings so that it can drill two neighboring wells at the same time. *See id.* at 1:87–90. Horn describes an advantage of having the two drill strings under the same derrick and close to each other is that it allows "the possibility of concentrating common auxiliary equipment and permitting better surveying and coordination" and

"to place the appurtenant equipment for the drill strings close to the vertical centre line of the vessel." *Id.* at 1:119–125. Generally missing from Horn is a disclosure of a means for transferring tubular assemblies between the two hoists, *see* Pet. 27–28 (proposing to modify Horn to have such a feature), and top drives, *see* Pet. 22 (proposing to modify Horn to have top drives).

*4. Baker*

The Baker reference is a textbook on oil well drilling. Baker includes a discussion of how a top drive works. Ex. 1010, 122–123.[14] Petitioner cites to Baker for the purpose of showing that it would have been obvious to a person of ordinary skill in the art to have a top drive instead of (or in addition to) a rotary table. Pet. 22.

*5. Moore and Varco*

Moore discloses that it was known to equip a drilling rig with two sets of hoisting mechanisms with a way to transfer pipe between them. Ex. 1003, 1:5–15. Petitioner cites to Moore for the notion that dual activity drilling using multiple hoists to perform drilling operations and auxiliary drilling operations simultaneously. Pet. 35. Varco discloses a commercially available rail mounted pipe handling system. Ex. 1011, 3465, 3469–3472.[15] Petitioner cites to Moore to the extent the means for transferring is construed to be a rail-mounted system. Pet. 35.

[14] Citations to Baker are to the original page numbers of the Exhibit.
[15] Citations to Varco are to the original page numbers of the Exhibit.

### *6. Rike and Chevron*

Rike discloses a "piggy-back" rig that uses two drawworks, one for drilling and one for "completion operations." Ex. 1014, I-191. The piggy-back rig allows "concurrent drilling and completion operations and to eliminate production delays." *Id.* The Ocean Industry publication includes a description of the Chevron S-55 rig,[16] which included a single derrick but lists as features two drawworks, two rotaries, and two hooks. Ex. 1015. Petitioner cites to Rike and Chevron S-55 for the notion that they teach separate drawworks within the same derrick. Pet. 23.

### *7. Asserted Grounds*

We first address Petitioner's sole anticipation ground, which relies on Lund. Then, we turn to Petitioner's first obviousness ground, which relies on Lund, Horn, Baker, Rike, and Chevron. This first obviousness ground has two versions, one that starts with Lund as the base reference, and one that starts with Horn. Petitioner's second obviousness ground relies on Lund, Horn, Moore, Baker, and Varco. Like the first obviousness ground, this ground also has two versions, one starting with Lund and one starting with Horn. The difference between the two obviousness grounds lies in the use of Rike and Chevron vs. Moore and Varco, but are essentially the same. *See* Pet. 34–35 (referring to the ground "mentioned above"). The Moore/Varco pair is used to the extent we would interpret the means for transferring to require a rail-mounted pipe handling system. *See id.* at 35

[16] The parties refer to this publication as "Chevron S-55" rather than "Ocean Industry"; for consistency, we likewise refer to the publication as "Chevron" or "Chevron S-55."

("[e]ven if the 'means for' structure . . . were narrowly interpreted to require a rail mounted pipe handling system, this teaching is supplied by Baker and . . . Varco"). Because we did not construe the means for transferring so narrowly, the second obviousness ground does not require separate analysis, and the two obviousness grounds stand or fall together.

*C. The Lund Anticipation Ground*

Independent claim 30 of the '781 patent, unlike independent claim 10 of the '781 patent, does not require top drives and, as such, does not require both hoists to be capable of performing drilling operations. Independent claim 10 of the '851 patent and independent claim 17 of the '069 patent likewise do not specifically require drilling capabilities. We focus our analysis on claim 30 of the '781 patent as representative of these claims.

Petitioner asserts that claim 30 is anticipated by Lund. Pet. 36. Petitioner asserts that Lund discloses a drilling superstructure and first means for advancing tubular members, with the derrick and drilling hoist. *Id.* at 42–43 (claim chart directing the reader to the claim 10 analysis); 17–29 (claim 10 analysis); 36–40 (claim chart for claim 10). Petitioner asserts that the "second means . . . for advancing tubular members" limitation is satisfied by the preparation hoist of Lund. *Id.* at 23–24, 42–43; *see also* Ex. 1007 ¶ 94. Petitioner also asserts that Lund discloses a means for transferring tubular assemblies between the two means for advancing. *Id.* at 25–27, 43.

Patent Owner first argues that it "disclaimed Lund" during prosecution. PO Resp. 4–5 (emphasis omitted). To the extent Patent Owner is arguing that the examiner already determined Lund did not disclose this

limitation, we considered and rejected this argument in our Decision on Institution because Petitioner offered persuasive new evidence. Dec. on Inst. 18–19. Specifically, during prosecution, the examiner was persuaded by attorney argument. Ex. 1006, 139–146 (applicant's remarks distinguishing Lund), 151 (examiner's observation that, in Lund, "both advancing means are not used to advance tubular members to the seabed"). The examiner's statement at that time was directed to his finding of what *actual uses* were described in Lund. The challenged claims are not directed to methods, however, but structures, and Petitioner's Petition seeks to show how a person of ordinary skill in the art would have understood the *functional capabilities* of Lund. *See* Pet. 42–43 (relying on the testimony of its expert to explain how Lund describes the functional limitations). Accordingly, we do not find persuasive Patent Owner's argument that the examiner's allowance of the claims over Lund compels us to find that Lund does not anticipate.

A dispositive dispute between the parties on this ground is whether Lund describes the "second means . . . for advancing tubular members." *See* PO Resp. 3 ("Lund does not anticipate claim 30 because it does not disclose a 'second means'"); Pet. Reply 2 ("Transocean argues that Lund lacks the claimed 'second means'"). Claim 30 specifies that the second means for advancing tubular members can advance them "to the seabed." The issue is whether Petitioner has shown sufficiently that the preparation hoist of Lund is capable of doing so.

The Lund preparation hoist is used to make up tubular assemblies while the drilling hoist is drilling. Ex. 1002, 3:21–46; Ex. 1007 ¶ 72. The

preparation hoist does not have a top drive and is generally not designed to carry as heavy a load as the main, drilling hoist. Ex. 1002, 6:62–7:2; Ex. 1007 ¶ 72. The specific capabilities of Lund's preparation hoist (capacity, cordage length, etc.) are not specified. Petitioner's position is, essentially, that the example in Lund of how the preparation hoist operates is sufficient to show that the preparation hoist is capable of lowering tubular assemblies a certain distance below the deck, and that that distance would necessarily include the seabed if operating in shallow enough waters.

The specific example in Lund relied upon by Petitioner is as follows. The preparation hoist lowers a drill tube through the floor of the deck into and part way through preparation opening 21. Ex. 1002, 7:58–61; *see also id.* at Figs. 1, 2 (depicting the location of preparation opening 21). That drill tube is held in place by slips and another tube is brought above it. *Id.* at 7:61–65. Torqueing device 25, near the deck, screws the tubes together, and then the now-2-tube-length assembly is lowered down even further for a third tube to be attached to the top of the second tube in the same manner. *Id.* at 7:68–8:9. Then, the entire 3-tube assembly, called a triple stand, is pulled up by the preparation hoist and set aside in a storage location until needed. *Id.* at 8:9–14. The takeaway from this example is that Lund describes a process of making a triple stand that involves dangling two stands below the level of the deck. Each stand is about 10 meters long (*id.* at 2:11–12), meaning that the preparation hoist in the example has lowered the tubes about 20 meters below the deck.[17] Thus, the example shows that

[17] In making a triple stand, the first two tubes would be at or below deck to allow the third tube to be fastened using the torqueing device 25 at the floor

Lund's preparation hoist is capable of lowering a set of tubes about 20 meters below the deck. If the seabed is less than 20 meters below the deck, then executing this procedure would necessarily result in a tube touching the seabed and anticipation of the claim. *MEHL/Biophile Int'l Corp. v. Milgraum*, 192 F.3d 1362, 1366 (Fed. Cir. 1999) ("Where . . . the result is a necessary consequence of what was deliberately intended, it is of no import that the article's authors did not appreciate the results."). Petitioner and its expert assert that Lund recognizes that these tubes reach down to the seabed because Lund warns about hitting structures that allegedly exist at the seabed. Ex. 1007 ¶ 94 (citing Ex. 1002, 9:58–64); Pet. Reply 4 (citing Ex. 1037 ¶¶ 14, 15, 20); Ex. 1002, 9:58–65 (cautioning that sufficient clearance around existing undersea structures could preclude the tubes from being built up in this manner). Petitioner's position is that this is sufficient to demonstrate anticipation.

The words "to the seabed" in claim 30 require that the second means for advancing tubular members must have a structure in practice that, without modification, allows it to perform that function. *See Typhoon Touch Tech's, Inc. v. Dell, Inc.*, 659 F.3d 1376, 1380 (Fed. Cir. 2011) (listing cases that reject the notion that a prior art structure that could be modified to infringe would infringe).[18] Petitioner asserts that, to anticipate, Lund merely

---

of the deck. Thus, of the 30 m long stand, a little more than 10 m of tube would be above the deck and a little less than 20 m would be below the deck, depending on how and where exactly the torqueing device held onto the second and third tubes to fasten them.

[18] We recognize that *Typhoon* was concerned with a question of infringement, but the principles discussed therein are also relevant to a patentability analysis because "[t]hat which infringes, if later, would

needs to perform this function at some depth, not every depth. Pet. Reply 5–6. We agree with Petitioner on this point, at least in general.[19] *See, e.g.*, *Bell Commc'ns Research, Inc. v. Vitalink Commc'ns Corp.*, 55 F.3d 615, 622–23 (Fed. Cir. 1995) ("an accused product that sometimes, but not always, embodies a claimed method nonetheless infringes"). We are not persuaded, however, that Petitioner has shown that Lund is capable of lowering a tubular string to the seabed at some depth.

First, Petitioner has not offered evidence that Lund actually describes lowering tubulars to the seabed. The disclosure in Lund cautioning to be careful not to strike structures (Ex. 1002, 9:58–65) does not actually describe whether the structures are undersea, let alone at the seabed. Instead, Lund simply describes a "possible occurrence of well heads and other structures in the area around the well centre." *Id.* Patent Owner has provided evidence that Lund could be referring to structures above the surface of the water or on the drilling rig itself, which Patent Owner shows are not uncommon in shallow-water operations. PO Resp. 7–9 (citing, e.g., Ex. 2075 ¶¶ 68–74; Ex. 2088, 47:15–52:19). This evidence rebuts the testimony of Mr. Schaaf upon which we relied in determining that Petitioner had a reasonable likelihood of success. *See* Pet. 42 (citing Ex. 1007 ¶ 94); Ex. 1007 ¶ 94 (citing to Ex. 1002, 9:58–64 as allegedly disclosing that the hoist in Lund could reach the seabed); Dec. on Inst. 19 (relying on the testimony at Ex.

---

anticipate, if earlier." *Peters v. Active Mfg. Co.*, 129 U.S. 530, 537 (1889).

[19] The depth would have to be a depth at which a drilling rig would be used, for example. If drilling rigs were not used at a certain depth, for example, then it would make no sense to construe the limitation in a way to require such a depth.

1007 ¶ 94). Based on the record now before us, we find that it is not necessarily the case that Lund was describing interference with structures in the sea or at the seabed, as it is possible Lund was describing interference with structures above the waterline or on the rig itself.

Second, Petitioner has not offered sufficient evidence that there are scenarios in which Lund would be making up tubular stands where the deck of the drilling rig was 20 meters or less from the seabed. Drilling rigs have structures below the deck, and often an air gap between the lowermost of such structures and the water level. *See, e.g.*, Ex. 1004, Fig. 1 (semisubmersible configuration); Ex. 1001, Fig. 6 (drillship configuration); *cf.* Ex. 1002, Fig. 1 (only showing the deck). We do not have sufficient evidence explaining how much distance would exist between the deck and the waterline in Lund, such as to know whether the tubing would even reach the water, and Lund is silent as to those details. Accordingly, we are left to speculate as to whether 20 meters below deck would be sufficient to reach the water line, let alone the seabed. While it may be possible, and even probable, that the drilling rig substructure, the air gap (if any), and the ocean depth all combine to be 20 meters or less from the deck in Lund at least in some cases,[20] in neither situation would it be permissible for us to find anticipation. *See Hansgirg v. Kemmer*, 102 F.2d 212, 214 (CCPA 1939) ("Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient."). Similarly, while it may be possible, and

[20] By "in Lund," we mean at a depth and on a rig where building tubulars with the preparation hoist as described in Lund would take place.

even probable, that the preparation hoist in Lund has sufficient cordage and strength to lower tubes even further than 20 meters, we have no evidence that explains why this is necessarily the case, as the only example of operation we have in Lund that discusses the capabilities of this hoist is the 20 meter example, and we have no other description of the capability of the preparation hoist's draw works and associated structures. *Cf.* Ex. 1037 ¶ 15 (Petitioner's declarant extrapolating based on Lund's disclosure the strength of Lund's hoist, which he explains could be used to lower more of a lighter structure, but not providing evidence or explanation as to the length of cordage available).

In light of the above, we find that Petitioner has not established sufficiently that the preparation hoist in Lund is a structure capable of lowering a tubular member to the seabed. As such, we determine that Petitioner has not shown, by a preponderance of the evidence, that Lund anticipates claim 30. For the same reasons, Petitioner's anticipation grounds against claim 10 of the '851 patent and claim 17 of the '069 patent also fail. Each of these claims includes the same "to the seabed" limitation.

### *D. The Obviousness Grounds*

We first discuss Petitioner's assertions regarding the scope and content of the prior art, the differences between the prior art and the claims, and the asserted rationales. Then, we analyze the dispute between the parties as to whether the rationales have sufficient underpinnings and the objective indicia of non-obviousness. Finally, we weigh all of the evidence

to determine whether Petitioner has established, by a preponderance of the evidence, the unpatentability of any claims.[21]

*1. Teachings of the Cited References*

We focus our analysis on independent claim 10 of the ’781 patent, which is narrower than independent claim 30 of the ’781 patent, independent claim 10 of the ’851 patent, or independent claim 17 of the ’069 patent, because of the specific recitations of top drives and drawworks, versus the more broad limitations directed to a tubular advancing station or means for advancing tubulars.

Claim 10 of the ’781 patent requires a multi-activity drilling assembly including a derrick having two top drives, two drawworks adjacent the derrick, and a means for transferring tubular assemblies between two top drive stations within the derrick. It further requires that drilling activity can be conducted with one top drive and that auxiliary drilling activity extending to the seabed can be simultaneously conducted with the other top drive. As mentioned above, Petitioner offers two similar grounds, the core of both involving the teachings of Lund, Horn, and Baker. Petitioner further provides rationales if starting with Lund and rationales if starting with Horn. We analyze both combinations.

[21] We are cognizant that, when making an obviousness determination, we do not first establish obviousness and then consider whether the evidence of non-obviousness overcomes the evidence of obviousness. This is simply the order in which we address these topics.

*a. Lund*

Petitioner asserts that Lund discloses a derrick for two hoists. Pet. 17–19 (citing, e.g., Ex. 1002, Fig. 3). Petitioner asserts that Lund discloses the first set of top drives and drawworks. *Id.* at 21–22, 22–23 (citing, e.g., Ex. 1002, 6:58–61, 7:29–32). Petitioner admits that Lund's second hoist, called a preparation hoist, does not have a top drive. *Id.* at 23. Instead, the preparation hoist is used to make up tubular assemblies. *Id.* Petitioner asserts that the difference lies in the amount of load that the hoist is designed to carry (and the missing top drive). *Id.* at 23–24. Petitioner asserts that it would have been obvious to modify Lund's preparation hoist to have a top drive (and to otherwise increase the load it is designed to take) because that would give Lund two drilling hoists, as described in Horn. *Id.* at 23–25. Petitioner asserts that Lund discloses a rail mounted pipe handling system to transfer tubular assemblies between the hoists. *Id.* at 25–27. Lastly, Petitioner asserts that Lund discloses conducting simultaneous drilling operations and operations auxiliary to the drilling operations, citing to portions of Lund discussing how the preparation hoist can do certain operations so that the drilling hoist does not have to do them. *Id.* at 27–29 (citing Ex. 1002, 3:42–46, 10:55–83; Ex. 1007 ¶ 82). Petitioner also sets forth its reasons for why it would have been obvious to a person of ordinary skill in the art to modify the preparation hoist in Lund to be a second drilling hoist. *Id.* at 45–48. For example, Petitioner asserts that this is a duplication of parts that would allow simultaneous drilling operations, such as shown in Horn. *Id.* at 46; *see also id.* at 23 (citing Ex. 1014, I-191, I-193; Ex. 1015)

(each Exhibit allegedly showing a derrick having two drawworks, hooks, etc.).

*b. Horn*

Petitioner asserts that Horn discloses a derrick for two hoists. Pet. 22 (citing, e.g., Ex. 1004, Fig. 1). Petitioner asserts that Horn discloses two sets of hoists having drawworks (*id.* at 23, 25), but that Horn discloses rotary tables instead of top drives (*id.* at 22, 24). Petitioner asserts that it was known in the art that top drives were substitutes or alternatives for rotary tables, and that it would have been obvious to modify Horn's drillship to use top drives. *Id.* at 22 (citing Ex. 1007 ¶ 69; Ex. 1010, 76–77 (discussing using top drives instead of rotary tables)). Lastly, Petitioner asserts that it would have been obvious "to provide Horn with the rail mounted pipe handling system taught in Lund." *Id.* at 27. Petitioner asserts that Horn inherently had some sort of pipe handling equipment, at least to move tubulars between the corresponding hoists and pipe storage areas. *Id.* at 27–28. Petitioner asserts that provision of a pipe handling system between the hoists would have been obvious to allow for the transfer of tubulars between drilling hoists as taught by Lund. *Id.* at 27 (citing Ex. 1007 ¶ 81).

*c. Conclusion Regarding Petitioner's Assertions*

The dispute between the parties does not lie in whether the references teach each and every limitation. *See* PO Resp. 12 (alleging only that each reference does not individually disclose all elements). We note that Patent Owner argues that some of the prior art teaches two drill stations operating on two wells but not one well. *E.g.*, *id.* at 13, 15. However, we find no evidence in the record before us that would allow us to conclude that there is

any structural difference between a drilling station intended to work on its own well or on the same well as the other drilling station—it is purely an intended use as claimed without structural ramifications. In addition, Patent Owner does not argue that there is any structural difference. Patent Owner's argument regarding one well appears to relate to the rationale, which we address in the next section. Having reviewed the Petition (Pet. 16–36) and the evidence cited therein, we find that Petitioner has established that the prior art teaches all elements of claims 10–12 and 30, and we adopt the Petition's analysis as our own in this respect. *Accord Transocean I*, 617 F.3d at 1303 ("In combination, Horn and Lund teach all of the limitations of the claims"). We now turn to the disputes over the obviousness rationales.

*2. Analysis of the Rationales*

*a. Lund*

The proposed modification to Lund is to change the preparation hoist into a drilling hoist. Pet. 23–24. A reason for doing this is for the ability to have two drilling stations, such as shown in Horn. *Id.* (citing Ex. 1007 ¶ 72); *see also id.* at 23 (citing Ex. 1012 ¶ 41; Ex 1014, I-191, I-193; Ex. 1015, each of which show examples of drilling rigs having two drilling stations). Given the examples of drilling rigs having two drilling stations under one derrick (e.g., Horn, Chevron S-55), we find that a person of ordinary skill in the art has a reasonable expectation of success in converting Lund's preparation hoist into a drilling station.

Patent Owner's arguments focus on whether a person of ordinary skill in the art would have considered such a modification in the first place. PO Resp. 15–16, 22–24. Patent Owner first argues that Horn does not explain

why a person of ordinary skill in the art would modify Lund's rig to have a second drilling hoist. *Id.* at 15–16. Petitioner's Petition addresses that argument, when it states that the proposed modification "would have had the added advantage of being able to have each hoist run its own drill string to the seabed," exactly as taught in Horn. Pet. 24. In other words, making the second hoist drill-worthy would be following Horn, such as to enable the Lund rig to drill two wells at the same time. Patent Owner misunderstands *KSR* when it argues that Petitioner cannot use *drill two wells* as a rationale. *See* PO Resp. 15 (citing *KSR Int'l. Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007)); *KSR*, 550 U.S. at 418 ("[I]t can be important to identify a reason . . . to combine the elements in the way the claimed new invention does."). When it states that there must be a reason to combine the elements "in the way the claimed new invention does," the Supreme Court means that there must be a reason to combine to arrive at the claimed invention (i.e., to meet each limitation, as arranged in the claim). This understanding of *KSR* is apparent by reading the next page, where the Supreme Court explicitly rejected the theory that a reason for combination must be the same as the inventor's: "[i]n determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls." *KSR*, 550 U.S. at 419. Accordingly, we do not see any deficiency in Petitioner's reasoning with respect to Petitioner's reliance on a desire to have two drill stations for two wells, as taught in Horn and for the benefits described therein. As such, we find that Petitioner has articulated a reason with rational underpinnings for modifying Lund's rig to have two drill stations, as taught in Horn.

*b. Horn*

The proposed modifications to Horn are to add top drives and to add a transfer means between the two hoists. *See* Pet. 22, 24, 27–28 (citing Ex. 1007 ¶ 72). We find that a person of ordinary skill in the art would have had a reasonable expectation of success in this endeavor, as evidenced by the references that teach using top drives as an upgrade to rotary tables (e.g., Baker) and that have transfer means (e.g., Lund, Varco).

Patent Owner's arguments focus on identifying alleged deficiencies in the Federal Circuit's prior determination that the teachings of Horn and Lund support a "a *prima facie* case that the claims would have been obvious to one of ordinary skill in the art." PO Resp. 17–20; *Transocean I*, 617 F.3d at 1304. Petitioner did not rely on the same rationale set forth in *Transocean I*, and although we indicated that our determination that Petitioner had established a reasonable likelihood that the claims were obvious over Horn and Lund was consistent with *Transocean I*, none of the instituted grounds in these proceedings were based on *Transocean I* rationale. *Accord* PO Resp. 17 ("Seadrill does not rely on the same motivation to combine that the Federal Circuit identified in *Transocean I*."). Accordingly, Patent Owner's arguments here are unpersuasive because they are not directed to the ground before us.

Patent Owner's arguments directed to Petitioner's articulated rationale focus on Patent Owner's own theory of what an obvious combination of Horn and Lund would be. PO Resp. 20–22. Simply making an argument that a different combination would be more obvious does not speak to whether the ground in front of us, which does not rely on that combination,

would have been obvious. Giving Patent Owner the benefit of the doubt, however, we construe Patent Owner's argument as stating that a person of ordinary skill in the art would not have considered Petitioner's proffered combination. Petitioner's proffered combination, however, simply seeks to apply the teaching of Lund (making up tubulars offline) to Horn. Structurally speaking, making up tubulars offline requires a transfer means. Patent Owner argues that Horn is directed to drilling two separate wells independently, which is true, but this argues the references in isolation. *See id.* at 21 ("Horn focuses exclusively on drilling two wells simultaneously").

A person of ordinary skill in the art, having worked in the oil production industry, would be aware of the various examples of rigs having two hoists. The design of the prior art hoists run the range from two drilling stations (Horn, Chevron S-55) to one drilling station and one auxiliary station (Lund, Moore, Rike). Further, the hoists can be used independently on different wells (Horn) or cooperatively on the same well (Lund, Moore, Rike). Ex. 1002, 3:25–37 (Lund discloses, "tubular body section may be assembled . . . at the preparation opening, while rotary drilling operation is carried on at the drilling opening"); Ex. 1003, 1:5–11 (Moore discloses, "[i]t is known to equip a drilling rig with two sets of hoisting mechanisms" to "carry on two operations simultaneously" such as making up tubulars); Ex. 1004, 1:79–82 (Horn discloses concurrent operation of two drill strings); Ex. 1014, 1 (Rike discloses a "piggy-back" rig that "permit[s] concurrent drilling and completion operations" on serial wells). Of the hoists used cooperatively in the prior art, the Lund and Rike auxiliary hoists are described as not as capable as the drilling hoist, but in Moore both hoists are

of the same capacity. Ex. 1002, 6:65–7:2 (comparing the relative strengths of the drilling hoist and preparation hoist); Ex. 1003, 1:46–52 (explaining both hoists use the same parts); Ex. 1014, 1 ("'piggy-back' rig utilizes a small separate drawworks and crown block"). A person of ordinary skill in the art knows that a drilling hoist is also capable of making up tubular stands. Ex. 1002, 3:25–46 (explaining that the benefit of the preparation hoist is to obviate the need to use the drilling hoist to make up tubular sections).

With this background level of skill in mind, we disagree with Patent Owner that Petition has not "identif[ied] a reason [t]hat a POSA would place that pipe handling system between the advancing means." PO Resp. 17. Petitioner states that the modification would allow Horn "the ability to transfer tubulars between drilling hoists as taught by Lund" (Pet. 28 (citing Ex. 1007 ¶ 81); Pet. Reply 11–12 (citing Ex. 1037 ¶¶ 26–29, 32, 35)), and this makes sense in the context that Lund teaches that drilling hoists also can be used to make up tubulars. This would give Horn the additional capabilities of cooperative/same-well derricks such as Lund, Moore, and Rike. Although Horn focused on drilling two wells, this conversion allows for Horn to take advantage of the known benefits of Lund, Moore, and Rike. Accordingly, we determine that Petitioner has articulated a reason with rational underpinnings for modifying Horn's rig to have Lund's transfer means.

The proposed modification to include the top drives in Horn is not in dispute, as top drives were a known upgrade over rotary tables (for building pipe stands) by the time of the invention. Ex. 1010, 76 (stating, "[t]he main

advantage of a top drive . . . is that a top drive makes it safer and easier for crew members to handle the pipe," and listing other advantages); Ex. 1007 ¶ 69. Accordingly, we find that Petitioner has articulated a reason with rational underpinnings for modifying Horn's rig to have top drives.

*3. Analysis of the Objective Evidence of Non-Obviousness*

Evidence of objective indicia of non-obviousness "may often establish that an invention appearing to have been obvious in light of the prior art was not." *Mintz v. Dietz & Watson, Inc.*, 679 F.3d 1372, 1378 (Fed. Cir. 2012). Patent Owner offers evidence it asserts shows objective evidence of non-obviousness in the form of commercial success (PO Resp. 40–51), unexpected results and industry praise (*id.* at 51–53), copying (*id.* at 53–54), industry skepticism (*id.* at 55–56), licensing (*id.* at 57–58), acquiescence (*id.* at 58–60), and long-felt but unmet need and failure of others (*id.* at 60–63). Patent Owner also directs us to its arguments and evidence in support of a nexus between the claims and the objective evidence (*id.* at 26–40), and an argument that its invention was not simultaneously developed by another (*id.* at 63). Petitioner provides its arguments in rebuttal. Pet. Reply 13–25. We have reviewed the arguments and evidence cited in these papers. The body of evidence is substantial (almost 500 exhibits are of record); we focus our analysis on the evidence we consider most relevant to determining patentability.

*a. Nexus*

Paramount in any consideration of objective evidence is the nexus analysis—it serves to provide a link between the merits of the invention and the evidence provided, such as to allow us to distinguish when the objective

evidence speaks to the invention, rather something else. *In re Huai-Hung Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011) ("For objective evidence of secondary considerations to be accorded substantial weight, its proponent must establish a nexus between the evidence and the merits of the *claimed* invention.") (citations omitted). For example, we must not attribute to the non-obviousness of an invention commercial success or praise derived simply from business acumen, clever marketing, or the mere use of features already within the public domain. *See, e.g.*, *Pentec, Inc. v. Graphic Controls Corp.*, 776 F.2d 309, 315–16 (Fed. Cir. 1985) (commercial success may have been attributable to extensive advertising and position as a market leader before the introduction of the patented product); *Solder Removal Co. v. United States Int'l Trade Comm'n.*, 582 F.2d 628, 637 (CCPA 1978) ("[c]ommercial success due only to superior business acumen, or effective advertising, is of no relevance"); *Schwinn Bicycle Co. v. Goodyear Tire & Rubber Co.*, 444 F.2d 295, 300 (9th Cir. 1970) (sponsorship by market leader "may be largely responsible for the success of the design"). The burden of showing that there is a nexus lies with the Patent Owner. *In re Paulsen*, 30 F.3d 1475, 1482 (Fed. Cir. 1994).

Further, "there is a presumption of nexus for objective considerations when the patentee shows that the asserted objective evidence is tied to a specific product and that product 'is the invention disclosed and claimed in the patent.'" *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1329 (Fed. Cir. 2016) (quoting *J.T. Eaton & Co. v. Atl. Paste & Glue Co.*, 106 F.3d 1563, 1571 (Fed. Cir. 1997)). However, Patent Owner carries the burden of demonstrating that the "thing . . . that is commercially successful is the

invention disclosed and claimed in the patent." *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988). Moreover, "[w]hen the thing that is commercially successful is not coextensive with the patented invention—for example, if the patented invention is only a component of a commercially successful machine or process—the patentee must show prima facie a legally sufficient relationship between that which is patented and that which is sold." *Id.* Here, the product sold by Patent Owner is a lease of a drillship, of which the claimed invention is a subcomponent. We credit the testimony of Mr. Childers on this point, who provides an analysis of the testimony of various individuals associated with Patent Owner, and who discuss the many other major features of a drillship. Ex. 1038 ¶¶ 40–43. We recognize that the derrick configuration is one of the principal components of the drillship, however, as evidenced by the fact that the drillships are often referenced by the capabilities of the derrick, e.g., "single activity" or "dual activity." Nevertheless, because of the myriad components and marketable features of a drillship, we cannot afford Patent Owner the presumption that its *drillship* "is the invention disclosed and claimed in the patent." *J.T. Eaton*, 106 F.3d at 1571.

Patent Owner's nexus arguments are an attempt to show that the phrase "dual activity" "is industry parlance for [Patent Owner's] invention." PO Resp. 27. In other words, Patent Owner argues that each time we see the phrase "dual activity," we should think of the claimed subject matter. We have reviewed Patent Owner's arguments and evidence (*id.* at 26–40), and Petitioner's rebuttal (Pet. Reply 13–16), and for the reasons expressed

below, we find that "dual activity" is a generic term in the industry and is not the claimed invention. Because of this, we find that we cannot consider "dual activity" industry parlance for Patent Owner's invention. However, we find that "dual activity" is sometimes used to refer to the claimed invention, and that what structures give rise to "dual activity" in the evidence are generally a subset of the features of the claimed invention. Accordingly, each piece of evidence must be evaluated on its own merits in terms of nexus. *WBIP*, 829 F.3d at 1331 ("Questions of nexus are highly fact-dependent . . . . 'It is within the province of the fact-finder to resolve these factual disputes regarding whether a nexus exists between commercial success of the product and its patented features, and to determine the probative value of evidence of secondary considerations.'") (citing *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1574 (Fed. Cir. 1996)). For example, to the extent a reference is ambiguous as to the form of "dual activity" being discussed, the nexus between that reference and the claims, and hence its probative value of non-obviousness, is diminished. *See Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 306 (Fed. Cir. 1985) (holding that the weight attributed to the secondary evidence is proportional to its nexus to the merits of the invention, implying that a weak nexus requires some discount factor to the evidence, but a strong nexus does not).

*(1) Why "Dual Activity" is Generic*

Petitioner offers a substantial body of evidence that shows that the term "dual activity" had different meanings to different people in the industry, i.e., that it is a term that refers to designs that are not the claimed

structures. *See* Pet. Reply 14–16 (citing, e.g., Ex. 1038 ¶¶ 4–40, 43, 69, 71). The term "dual activity" is not found in the patent (it is "multi-activity"), and the evidence before us suggests that the phrase was coined by Patent Owner's marketing team to help sell its new drillship based on the claimed patents, the drillship including a host of new features. Ex. 1038 ¶ 6 (Petitioner's declarant, Mr. Childers, testifying that "I never heard the term 'dual activity' until [Patent Owner] started to market the Enterprise in the latter 1990s."); PO Resp. 28–29 (Patent Owner claiming to have "coined 'dual activity'" (emphasis omitted)) (citing Exs. 2038, 2024, 2120, 2122 as evidence of Patent Owner's representatives using the phrase); *see also* Ex. 1038 ¶ 42 (Petitioner's declarant, Mr. Childers, testifying as to many of the other features of Patent Owner's drillships). As shown below, the term "dual activity" was then adopted throughout the industry, not to mean Patent Owner's invention, but rather more broadly to refer to doing two things on a drilling rig, which included devices and methodologies in use prior to the claimed invention (e.g., Horn, Lund). The testimony of Mr. Childers (*see generally* Ex. 1038 ¶¶ 4–40, 43, 69, 71) steps through the evidence presented by Petitioner; we focus on a few items discussed therein to illustrate why we find that "dual activity" is not synonymous with Patent Owner's claimed invention.

During the *Pacific* Litigation, Mr. Hermann, one of the named inventors of the '781 patent, was asked what "dual activity" meant. He answered, "[i]t depends on who you talk to." Ex. 1047, 145:24–146:1. For example, he testified that "[a] lot of people claim that offline stand building is dual activity." *Id.* at 147:1–2. Nearly ten years prior to his testimony in

the *Pacific* Litigation, Mr. Hermann testified in the *Maersk* Litigation that "dual activity means different things to different people," again with the example of offline stand building. Ex. 1046, 31:20–24[22]; *see also id.* at 35:11–14 (testifying that "I don't have a definition of dual activity," and that it "can mean different things at different times."). Mr. Hermann testifies that drilling two wells simultaneously (i.e., Horn), could be considered "dual activity." *Id.* at 33:20–34:17 (testifying that simultaneous operations on separate wells "could be somebody's definition of dual activity," and that, "[i]f you're using one rig to drill on two wells, that would be an example of dual activity."). Mr. Hermann testifies that making up tubular stands offline (i.e., Lund), could be considered "dual activity." *Id.* at 33:15–19; *see also* Ex. 1047, 147:6–21 (testifying that offline stand building is "dual activity" "to some people").

Not just the inventor considered those things falling outside of the invention, in and of themselves, to be "dual activity." GlobalSantaFe, a former competitor to Patent Owner now owned by Patent Owner, explained in an internal memo that "[d]ual activity can be defined from an ability to make up stands out of the critical path [i.e., Lund] to the ability to drill two wells simultaneously [i.e., Horn]." Ex. 2020, 7[23]; *see also* Ex. 1051, 64:21–65:19 (former employee of GlobalSanteFe testifying that "dual activity" means "you're doing two things at the same time that you otherwise would have to do one after the other," e.g., "tak[ing] tubular handling activities out

[22] Our citations are to the page numbers on the right side of the page under a portion that states "ESQUIRE DEPOSITION SERVICES."
[23] Citations to Exhibit 2020 are to the stamped-on citations furthest to the bottom, rather than the original pagination.

of the critical path.”). Maersk, another competitor, offers a similar view, defining “dual activity” as “[t]he use of two ‘activity centers’ to perform parallel operations,” and further noting conflict in the industry as to what “dual activity” covers. Ex. 2015, 2 (emphasis removed). An industry publication described performing “dual activity” operations using a particular vessel that only had one rotary table and thus, one drill station. Ex. 1052, 1 (“Dual activity operations were pursued”; “The vessel used . . . is the Q4000”). Credible testimony of Mr. Childers, supported by the evidence he cites, explains that this vessel “only has one rotary table and well center,” and thus, could not practice the claims. Ex. 1038 ¶ 21 (citing Exs. 1052, 1045). Another industry publication describes using a subsea hoist and remotely operated vehicle to “take[] [activities] out of the critical path,” which “frees up the rotary table on the rig and allows for dual activity.” Ex. 1053, 2; *see also* Ex. 1056 (a Journal of Petroleum Technology article touting “Dual Activities Without the Second Derrick”).

Finally, we note that Patent Owner itself states that “dual activity” is not synonymous with the claimed invention. John Stobart, an executive testifying on behalf of Patent Owner, stated that, “[d]ual activity, the way we use the term, is the ability to work on more than one well at a time with a rig,” which we note is what is shown in Horn. Ex. 1054, 7:1–11. Mr. Stobart then went on to say that “dual activity” means simply that there are two load paths (also Horn). *Id.* at 7:12–8:14.

The survey of the evidence before us, set forth above, shows that the term “dual activity” has no accepted meaning in the industry, and can refer to structures and methods performed in the prior art. That is, much of the

evidence discussing "dual activity" could be performed solely by Horn- or Lund-based designs operating exactly as described in those references (drilling two wells, offline stand building). Accordingly, we cannot find that a nexus exists between every given mention of the term "dual activity" and the claimed invention.

*(2) When "Dual Activity" Refers to the Claimed Invention*

In order to determine when "dual activity" refers to the claimed invention, it is important to understand how the claims differ from the prior art, e.g., as typified by Horn (dual drilling, or two load paths) and Lund (offline stand building). Paramount is recognition that the challenged claims are not method claims. There is no claimed "dual activity" method at issue here; comparing what prior art systems are *doing* to a hypothetical "dual activity" *method* is the wrong analysis. The claims are apparatus claims, with certain elements being defined with functional limitations as having certain functional capabilities. Functional limitations tell us about the structure required by the claims, but are not pseudo-method steps that the prior art must perform. *Catalina Marketing Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 809 (Fed. Cir. 2002) (the patentability of a claim "depends on the claimed structure, not on the use or purpose of that structure"); *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1468 (Fed. Cir. 1990) ("[A]pparatus claims cover what a device *is*, not what a device *does*."). Turning back to the claims, there are two main features to consider.[24] The first feature is a derrick having two hoist structures capable

[24] We recognize that not all of the challenged claims use the exact same terminology for these features, but for the sake of simplicity of terminology

of lowering tubulars to the seabed, sometimes referred to in the art as two load paths. The second feature is a structure for transferring tubular assemblies between the two hoist structures.

The first feature is exemplified by Horn; the second by Lund. As discussed above, either one, by itself, could be considered "dual activity" to those in the art. However, the challenged claims recite a structure that is capable of doing *both* forms of dual activity. This is also considered "dual activity," but is sometimes called "full dual activity" or "true dual activity." Ex. 2136, 3–4 (a trade magazine reporting that "a true dual activity rig would capture all the advantages of offline capable rigs and then go a step further [by running two things to the seabed]"); Ex. 1081, 236:22–237:18 (Petitioner's expert, Billy Ambrose, testifying in the *Pacific* Litigation about a customer unwilling to pay for "a full dual activity rig" but willing to pay for one "with offline capabilities"); *accord* Ex. 2137, 174–176 (contrasting simultaneous completion operations from "dual activity"). These terms show that effort was made by some in the art to distinguish between Patent Owner's type of "dual activity" and the prior art versions.

*(3) Conclusion Regarding Nexus*

From our discussion in the prior sections, we found that "dual activity" is sometimes understood in the art to reference two hoists working down to the seabed (e.g., Horn), is sometimes understood to reference two hoists with one only capable of offline activities (e.g., Lund), and is sometimes the combination of the two. Given that Patent Owner's claimed version of "dual activity" is simply the combination of the prior structures

---

we choose this language as representative.

that also are called "dual activity," it is difficult to discern whether any given feature is in reference to a feature of the claimed version or the prior art version in isolation. Accordingly, we cannot agree with Petitioner that there is no nexus, but we also cannot presume that "dual activity" refers to the claimed invention in every instance. In effect, we find that there is some nexus between the phrase "dual activity" and the claims, but with the caveat that we must be careful to discern how the phrase is used in the evidence.

*b. The Objective Evidence*

*(1) Commercial Success*

One of the key tenets of commercial success case law is that the commercial success must come from the merits of the invention and not from external factors, or merely from features already known in the art. *Cable Elec. Products, Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1027 (Fed. Cir. 1985); *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1312 (Fed. Cir. 2006) (finding uncompelling secondary evidence directed to unclaimed features or to features known in the prior art); *see also J.T. Eaton & Co., Inc.*, 106 F.3d at 1571 ("[T]he asserted commercial success of the product must be due to the merits of the claimed invention beyond what was readily available in the prior art."); *Richdel, Inc. v. Sunspool Corp.*, 714 F.2d 1573, 1580 (Fed. Cir. 1983) (holding claims obvious despite purported showing of commercial success when patentee failed to show that "such commercial success as its marketed system enjoyed was due to anything disclosed in the patent in suit which was not readily available in the prior art"). We must be careful when discounting evidence tending to show that commercial success was due to features "known in the prior art" because virtually every device is

a combination of known features. "[P]roof of nexus is not limited to only when objective evidence is tied to the supposedly 'new' feature(s)." *WBIP*, 829 F.3d at 1330. We must consider "the claimed combination as a whole that serves as a nexus for the objective evidence." *Id.*

Patent Owner's objective evidence analysis begins with evidence purporting to show commercial success. PO Resp. 40–51. Specifically, Patent Owner provides evidence in an attempt to show that customers were willing to pay more for a "dual activity" rig (*id.* at 41–44), that the industry adopted "dual activity" (*id.* at 44–45), that the industry recognized the value of the invention (*id.* at 45–48), that competitors market the claimed invention (*id.* at 48–49), and that customers demanded the claimed invention (*id.* at 49–51). Petitioner offers its rebuttal (Pet. Reply 16–19). We have reviewed the arguments and evidence cited therein. The following is our analysis of the parties' positions.

Patent Owner generally shows that customers paid more during days they used "dual activity" features versus days that they either did not or could not use those features. PO Resp. 41–44. For example, contracts provided that a given drilling rig's price would be marginally lower on days in which they would have used "dual activity" but were unable to do so. *See, e.g.*, Ex. 2100, 34–35; PD-01 [redacted]. Patent Owner also offers an analysis of data from an "IHS Petrodata" database that allegedly shows that rigs classified in the database as "dual activity" received higher day rates on average than those classified as single activity. PO Resp. 42–43 (citing Exs. 2080, 2194). There are two problems with Patent Owner's evidence here.

*PD-01: "Ex. 2102, 51"

First is the difficulty in determining a nexus. For the IHS Petrodata information, Patent Owner's expert analyzing the data, Mr. Bratic, presumes that "dual activity" in the database means "rigs that incorporate the teachings of [Patent Owner's] Dual-Activity Patents," relying on the testimony of Dr. Cooke at paragraphs 42–43. Ex. 2080 ¶ 4. There, Dr. Cooke states that "[i]t is my opinion that the term 'dual activity' is a generally accepted term in the industry used to reference Transocean's claimed invention." Ex. 2077 ¶ 42. He later states that "dual activity" is not offline stand building (Lund) or having two drilling stations but not transfer means (Horn). *Id.* ¶ 43. For the reasons expressed above in our nexus analysis, Dr. Cooke's testimony is overly simplistic, contradicted by evidence, and, therefore, not credible. Mr. Bratic's analysis is thus similarly contradicted by evidence and not credible.

Second, the fact that Patent Owner asked for an additional fee for using additional features of a rig, i.e., to use the "dual activity" feature of the rig, in and of itself, cannot show commercial success. To hold otherwise would be to find commercial success for virtually every additional feature not offered for free. *See Cable Elec. Products, Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1027 (Fed. Cir. 1985) ("this court . . . has unequivocally stated that for commercial success of a product embodying a claimed invention to have true relevance to the issue of non-obviousness, that success must be shown to have in some way been due to the nature of the claimed invention, as opposed to other economic and commercial factors unrelated to the technical quality of the patented subject matter.") (overruled on other grounds in *Midwest Industries, Inc. v. Karavan Trailers, Inc.*, 175 F.3d 1356 (Fed. Cir. 1999)). Further, as Petitioner explains, dayrates are driven by a

number of factors, including ship design, reputation, and timing. Pet. Reply 18 (citing Ex. 1038 ¶¶ 43–61).[25] Even if we were to ignore the deficiencies in Patent Owner's reliance on the IHS Petrodata information, to attribute, without sufficient analysis, the price difference to one factor (presence of "dual activity") out of many factors grossly oversimplifies the analysis and ignores the realities of the marketplace. Thus, Patent Owner's IHS Petrodata analysis is not credible evidence of non-obviousness.

Patent Owner next provides evidence it argues shows that the industry adopted the claimed invention. PO Resp. 44–45. Patent Owner similarly provides evidence that the industry recognizes the value of the claimed invention (*id.* at 45–48) and markets the claimed invention (*id.* at 48–49). First, Patent Owner relies on Mr. Bratic's flawed analysis of the IHS Petrodata database. *Id.* at 44 (arguing that the Patent Owner's invention makes up 50% of the global ultra-deepwater fleet and 70% of the global ultra-deepwater drillship fleet). This analysis suffers from the same nexus deficiency identified above; taking credit for forms of "dual activity" existing in the prior art rather than tying the evidence to the claims.

Notwithstanding these deficiencies, Patent Owner's evidence about industry recognition and marketing show that "dual activity" (whatever it means in each individual document) was something on the minds of the industry; we review that evidence next. *See* PO Resp. 45–49. Despite the

[25] Exhibit 2108 at 13 provides an excellent example of how various features, such as derrick height, have an even greater impact on costs. For example, slide 13 shows that a "dual" derrick that is 95ft is less expensive than a "single" derrick that is 135ft, when the rig is used in an exploration capacity.

existing forms of "dual activity" in the prior art, Patent Owner's competitor Pacific explained in an internal memo that "[Patent Owner] holds a patent on the dual activity methodology in various jurisdictions." Ex. 2099, 2. Pacific acknowledged some downsides to the technology, calling it an "incremental investment with no guarantee of incremental revenue," but also considered the upsides: "[e]fficiency, redundancy, and marketability." *Id.* at 1–2. Pacific recommended spending additional funds to exercise its option for the shipyard install the equipment on two of its new rigs. *Id.* at 1. Patent Owner's competitor Maersk lists the various forms of "dual activity" in another internal memo and, once again, despite these features being in the prior art individually, states that "[t]he best known examples of dual activity vessels are probably the drill ships of [Patent Owner]." Ex. 2015, 2–3. Patent Owner's former competitor GlobalSantaFe stated in an internal memo that, "in deep water dual activity capability provides a substantial reduction in dead time. [Patent Owner's ship] has demonstrated conclusively that this is so and any new build must incorporate this feature." Ex. 2020, 7. Despite dual-load-path prior art such as Horn, GlobalSantaFe considered "[Patent Owner's] dual-derrick concept, designed to enable continuous drilling," an "innovation[]." Ex. 2019, 12. Patent Owner also provides evidence that its competitors use the term "dual activity" to market their products. PO Resp. 48–49 (citing, e.g., Ex. 2113, 2; Ex. 2111, 5; Ex. 2150, 1). The value of the evidence just discussed is that it shows that, despite the closeness to the prior art, when Patent Owner offered its product and coined the term "dual activity" to market it, competitors sought to emulate those features in its own

products, directly attributed those features to Patent Owner, and sought to use Patent Owner's term for those features.

Patent Owner next presents its evidence that customers demanded the claimed invention. PO Resp. 49–51. Patent Owner offers, for example, two requests for information (RFIs) from Amoco and Total that list "dual activity" as a requirement. Ex. 2204, 4; Ex. 2205, 2. Patent Owner also provides an internal BHP memo that suggests BHP anticipates significant cost savings using "dual activity." Ex. 2202, 2. The problem with this evidence is, again, the nexus. The BHP memo is the only one that defines "dual activity" and it defines it as a "capability of performing two critical path activities simultaneously" (*id.*) but that is what Horn does, e.g., drilling two wells. Further, Petitioner makes a reasonable point that if there was real customer demand then there would be more than three bids in twenty years asking for "dual activity," implying that if there were more bids requesting the feature, then Patent Owner would have provided them. Pet. Reply 19.

The evidence provided by Patent Owner regarding Pacific's negotiations with Chevron indicate that Chevron required "dual activity" and they both believed that in order to do so they required a "work-around from [Patent Owner's] patent claims." Exs. 2114–2116. Although it is possible that these parties misunderstood what was covered by Patent Owner's claims, it shows that they acted under the belief that "dual activity" was a stand-in for the claimed invention. This does not have the nexus issues of the prior evidence.

Reviewing the evidence offered by Patent Owner as demonstrating commercial success, we find that much of the evidence must be significantly

discounted because of the weak nexus. However, the internal memos from Patent Owner's competitors after Patent Owner had released a commercial embodiment that included the claimed invention indicate that they considered what Patent Owner had called "dual activity" to be worthy of emulation, and even "innovate[ive]."[26] Exs. 2099, 2015, 2019, 2020. Thus, while much of the evidence lacks a nexus because "dual activity" means things other than the claimed invention, no one would even be using the term "dual activity" but for Patent Owner's introduction of its new generation of drillships incorporating the claimed invention. *See* Ex. 1038 ¶ 6 (Petitioner's declarant, Mr. Childers, testifying that "I had never heard the term 'dual activity' until [Patent Owner] started to market the Enterprise in the latter 1990s."); PO Resp. 28 (Patent Owner claiming to have "coined 'dual activity'") (citing Exs. 2038, 2024, 2120, 2122 as evidence of Patent Owner's representatives using the phrase). Competitors' appropriation of the term for their own marketing purposes is evidence of non-obviousness, in and of itself, because it tends to show that the market accorded a value to the invention that Patent Owner promoted as "dual activity." This is so even if Petitioner is correct in arguing that those competitors offered structures in the prior art and re-labeled them as "dual activity," and even if the efficiency benefits later turned out to be largely overstated or largely due to the structures in the prior art. Pet. Reply 17.

[26] This evidence strikes us more as "industry praise" than "commercial success," but Patent Owner presents it here and so we address it here.

*(2) Industry Praise and Unexpected Results*

Evidence that a person of ordinary skill in the art recognized the inventiveness of the product can be evidence of non-obviousness. *Vulcan Eng'g Co. v. Fata Aluminium, Inc.*, 278 F.3d 1366, 1373 (Fed. Cir. 2002) ("Appreciation by contemporaries skilled in the field of the invention is a useful indicator of whether the invention would have been obvious to such persons at the time it was made."); *Institut Pasteur & Universite Pierre Et Marie Curie v. Focarino*, 738 F.3d 1337, 1347 (Fed. Cir. 2013) ("[I]ndustry praise . . . provides probative and cogent evidence that one of ordinary skill in the art would not have reasonably expected [the claimed invention]."). For example, evidence that shows the product was "warmly received in the [relevant] industry" may indicate non-obviousness. *Ecolochem, Inc. v. So. Cal. Edison Co.*, 227 F.3d 1361, 1380 (Fed. Cir. 2000); *WBIP*, 829 F.3d 1317 at 1334 ("Industry participants, especially competitors, are not likely to praise an obvious advance over the known art.").

Patent Owner offers its evidence of industry praise and unexpected results (PO Resp. 51–53), to which Petitioner replies (Pet. Reply 19–21). Some of this evidence we have reviewed already (Exs. 2019, 2020). Other evidence shows that BP, when it inherited a "dual activity" rig contract from Amoco, was skeptical of Patent Owner's cost savings claims but later concluded that there were cost savings realized. PO Resp. 51 (citing Ex. 2025; Ex. 2048, 53–56; Ex. 2084 ¶¶ 9–17). Patent Owner offers evidence that Petitioner's predecessor, Smedvig, considered "dual activity" to be "a paradigm shift in drilling and completion operations." Ex. 2039, 1, 4. Other evidence similarly attributes benefits to "dual activity." Ex. 2045, 2

(offshore technology conference paper calling "dual activity" "[o]ne of the most significant value drivers for the selection of . . . rigs"); Ex. 2047, 5 (offshore technology conference paper identifying "the 'dual activity' derrick being built by [Patent Owner]" as a "revolutionary and innovative feature[]"); *see also* Ex. 2026, 4 (specifically crediting Patent Owner as having the first "[d]ual activity drillship" and listing that as one of the "50 key events, technologies [that] shaped the offshore industry").

Petitioner argues that the efficiency gains were overblown estimates or attributable to unpatented features. Pet. Reply 21 (citing Ex. 1038 ¶¶ 82–98, 126–128, 136). Reviewing Patent Owner's evidence in this light, we agree with Petitioner, to an extent. Chiefly we see the nexus issue as detracting from this evidence as indicia of nonobviousness—much of the praise is directed to dual load path (Horn) or offline stand building (Lund) by itself, which was prior art. On the other hand, there is evidence here that directly references what Patent Owner did in a highly positive light. Even if it was later shown that the benefits were less than initially thought, or could be achieved largely from the use of prior art structures, the evidence here shows insight into the favorable reaction by relevant players in the industry after Patent Owner released its commercial embodiment.

*(3) Copying*

For copying to be effective in showing non-obviousness, there must be more than simply a competing version of the product. *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1325 (Fed. Cir. 2004) ("Not every competing product that arguably falls within the scope of a patent is evidence of copying. Otherwise every infringement suit would

automatically confirm the nonobviousness of the patent."). Evidence of copying can be particularly persuasive when a competitor had tried and failed to introduce a competing product until the patented product became available. *Vandenberg v. Dairy Equipment Co., a Div. of DEC Int'l, Inc.*, 740 F.2d 1560, 1567 (Fed. Cir. 1984). Copying, however, "is only equivocal evidence of non-obviousness in the absence of more compelling objective indicia." *Ecolochem, Inc. v. So. Cal. Edison Co.*, 227 F.3d 1361 (Fed. Cir. 2000). One reason why is that other competitors might not view the product as something protectable by patent, e.g., it being a straightforward design or simply containing known features. *See Cable Elec. Products, Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1028 (Fed. Cir. 1985).

Patent Owner alleges that its competitors copied its claimed invention. PO Resp. 53–54. Patent Owner offers evidence that Maersk stated in an internal memo that "we have to incorporate the same efficiency improvement features as used by our competition . . . generally described as 'dual activity,'" later mentioning Patent Owner as having the "best known examples of dual activity." Ex. 2015, 1–3; *see also* PO Resp. 54 (alleging that Maersk had obtained confidential drawings showing one of Patent Owner's rigs with the claimed features) (citing Ex. 2158). Patent Owner offers evidence it alleges shows that Pacific proposed upgrading two rigs to "full dual activity capability" despite identifying the risk that "[Patent Owner] holds a patent on the dual activity methodology in various jurisdictions." Ex. 2099, 1–2. Lastly, Patent Owner offers evidence that GlobalSantaFe stated that "any new build must incorporate [dual activity]." Ex. 2020, 2, 6; Ex. 2019, 12.

Petitioner argues that "[c]opying requires evidence of efforts to replicate a specific product, not mere allegations of infringement." Pet. Reply 22. We consider the evidence here to align with what we have discussed above—that Patent Owner introduced a product into the marketplace having a certain feature and that other competitors introduced products having the same or similar features. We agree with Petitioner that merely offering competing products or alleging infringement are not signs of non-obviousness, for the reasons expressed by our reviewing court in cases such as *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1246 (Fed. Cir. 2010). The secondary consideration of copying is very specific—"evidence of efforts to replicate a specific product." *Id.* This specifically is not *evidence of efforts to provide a competing product* or *evidence of a product having the same features*, or we would be reading out the crux of the basis for the court's reasoning in *Wyers*, that "[n]ot every competing product that arguably falls within the scope of a patent is evidence of copying." *Id.*

The evidence Patent Owner provides is insufficient to establish that any of these companies *copied* Patent Owner's product, rather than more simply came up with something on their own to compete. The evidence regarding Pacific and GlobalSantaFe indicates that they wished for competing features. Although we have evidence that Maersk had engineering drawings of Patent Owner's product, we do not have "evidence of efforts to replicate a specific product," noting that "efforts to replicate" are *actions* taken by a party—we have no evidence of such actions, only evidence of the result (a competing product). Further, the claims at issue are very broad, do not involve technically complex subject matter, and hew

closely to the prior art. Accordingly, there is little reason to believe that Maersk's possession of engineering drawings was to facilitate reverse engineering Patent Owner's rig, for example. One simply needs to want to have a derrick with dual load paths and offline capabilities and then go do it; functioning examples were well within the prior art already.

*(4) Industry Skepticism*

The Supreme Court has held that "that known disadvantages in old devices which would naturally discourage the search for new inventions may be taken into account in determining obviousness." *United States v. Adams*, 383 U.S. 39, 52 (1966). Patent Owner argues that the industry was skeptical of the invention due to the potential for clashing and skeptical about the alleged efficiency gains. PO Resp. 55–56. For example, Patent Owner offers evidence from directed to the potential for a collision between two drill strings. Ex. 2147, 4–5 (stating concern that "damage caused by an underwater collision of these strings could greatly reduce the projected efficiencies of dual drilling operations"); *see also* Ex. 2023, 1 ("We consider not being realistic, in [Dynamic Positioning] mode and deep water, to consider two strings up to 10,000 ft long only distant by a few feet"); Ex. 2105, 2 (noting in Figure 1 a "Risk of risers clashing?").

Petitioner argues (Pet. Reply 22–23), and we agree, that this skepticism is not over the claimed invention (dual load paths *plus* offline capabilities) but rather the prior art dual drilling / dual load path concept. The claimed invention is the *combination of prior art features*—there is no skepticism over this *combination*. The skepticism here is equally applicable to Horn. Accordingly, the skepticism lacks a nexus to the claimed invention.

This evidence nevertheless provides some useful background information. The evidence expresses doubt as to whether dual load path designs (such as Horn) would be feasible due to clashing. But the evidence referred to this feature as "dual activity," a term that did not originate until Patent Owner's design. Ex. 2147, 4–5 (explaining under the header of "Dual Activity" that the "dual drilling" aspect risked collision); Ex. 2105, 2–4 (discussing the possible arrangements, and risk of collision, of risers in "dual activity" rigs). In effect, Patent Owner's design seems to be receiving the criticism for an old design. It appears that Patent Owner's design prompted the industry to reconsider, or perhaps consider seriously for the first time, concepts that had been published but were not widely implemented or utilized. The implication is that something about Patent Owner's design, offering *both* dual load paths plus transfer capabilities *in the same ship*, made these concepts worth consideration.

*(5) Licensing*

Licenses may indicate non-obviousness. *In re Sernaker*, 702 F.2d 989, 996 (Fed. Cir. 1983) ("Despite the fact that a patent has not yet issued, appellant has been able to license his invention."). Patent Owner allegedly offers evidence that three companies not under threat of litigation approached it for a license. PO Resp. 57 (citing licenses with Shell and Hess, and a contract with Pride). The Shell and Hess licenses include as part of their recitals an indication that there is a threat of lawsuit, however, by explicitly reciting that Patent Owner has sued Shell and Hess's contractors. Ex. 2011, 1; Ex. 2093, 1; Ex. 2096, 4. Further, using Patent Owner's evidence of the average cost of litigation (Ex. 2161), the average cost of

litigation is $6.3 million,[27] while the cost of the licenses was significantly less. Ex. 2097, 1 (showing Shell paid $3.8 million in royalties and Hess paid $2.2 million). The Pride contract requires Pride to pay lump sum of $10–$15 million dollars per rig it makes under the licensed patents, plus an ongoing monthly royalty of 5% of revenue (with credits available). Ex. 2012, 2–3. Patent Owner shows that it has received $10 million in total from Pride, indicating that the license was not used more than once, and there were either no royalties paid or the credits were sufficient to cover them. Ex. 2097, 1.

Patent Owner next offers evidence that after it won damages and a permanent injunction against GlobalSantaFe, that GlobalSantaFe opted to pay over $18 million to license the invention rather than pay a $4.5 million judgment and continue operating its rigs using only one well center. PO Resp. 57–58; Ex. 2009, 3 (providing for license payment of $12 million and royalties of 3% of revenue); Ex. 2097, 1, (listing "GSF" as having paid $18 million to Patent Owner); Ex. 2157 (final judgment against GlobalSantaFe of $5 million in damages, plus requiring modification of its equipment). This evidence is mitigated by the timing of the GlobalSantaFe merger with Patent Owner, raising a question as to the degree of arms-length negotiation involved in this transaction. The license was executed on February 14, 2007

[27] The evidence provided only covers the situation where greater than $25 million is at risk, and we do not have direct evidence of how much would be at risk here. However, because this is the same at-risk amount used by Patent Owner in its analysis for how much was at risk with Noble and Stena (PO Resp. 58), this at-risk amount appears to be the appropriate range.

(Ex. 2009, 3) and by July 2007 the companies announced they had a merger agreement in place (Ex. 1194).

Patent Owner lastly argues that the settlement/licensing fees collected from Noble and Stena were far more than the expected cost of litigation. PO Resp. 58; Ex. 2097, 1 (TO-01 [redacted]); Ex. 2161, 3 (showing an average of about $6.3 million to try a patent case).

Reviewing this evidence, it is clear that GlobalSantaFe found value in licensing the patents rather than using a work-around, although this evidence is tainted by the fact that GlobalSantaFe was merging with Patent Owner around this time frame and the evidence may not reflect a true arms-length transaction. The evidence regarding Shell and Hess appears to show licensing revenues that are much lower than the cost of litigation and, contrary to Patent Owner's position, motivated at least in part by avoiding litigation. The evidence regarding Noble and Stena paying TO-02 [redacted] cost of patent litigation is also of little probative value. Patent Owner's evidence shows that the 90th percentile cost is $12 million—there is no explanation for why $6 million is the right comparison, versus $12 million, or any other value. Given that there is also a possibility of losing, it is reasonable to consider the settlement amounts simply being a risk-adjusted net cost of litigation. *See* Ex. 2013 (Noble settlement, stating that "to avoid continued controversy, Noble desires a license"); Ex. 2094 (Stena settlement, stating that "the parties desire to avoid the cost and uncertainty of litigation by settling").

*(6) Acquiescence to Validity*

Patent Owner offers evidence that companies avoided infringement by installing sleeves or similar structures on their rigs, characterizing this as acquiescence to the patent's validity. PO Resp. 58–60. Petitioner characterizes this as evidence of a desire to avoid litigation and evidence that the invention is not necessary to continue business. Pet. Reply 24. Petitioner has the better argument here. Avoiding litigation is not acquiescence to validity. As Patent Owner has explained already, patent litigation is very expensive. Patent Owner has a track record of litigating these patents and the resulting litigation has made clear at least one path to avoid infringement—install the casing sleeve referenced by Patent Owner. *See, e.g.*, Ex. 2157 (final judgment against GlobalSantaFe instructing it to install casing sleeves to comply with the permanent enjoinment). Accordingly, given the costs of patent litigation and the ease of avoiding it by installing a casing sleeve (and the apparent satisfaction of the performance of the sleeved rig), this evidence shows a pattern of litigation avoidance.

*(7) Long-Felt Need*

Long-felt need can be shown by evidence that indicates that the prior art had a recognized need for a solution to the problem and that others had tried and failed to find a solution to that problem. *Al-Site Corp. v. VSI Int'1, Inc.*, 174 F.3d 1308, 1325 (Fed. Cir. 1999); *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1540 (Fed. Cir. 1983). Notably, the case law characterizes the need in terms of a long-felt but *unresolved* need. *Al-Site*, 174 F.3d at 1325 (discussing "long felt but unresolved needs").

Accordingly, Patent Owner must show that the need was both known and not resolved.

Patent Owner argues that there was a long felt need for greater efficiency. PO Resp. 60–63. One would struggle to find any industry that was uninterested in efficiency, however. As Petitioner points out, Patent Owner has not shown evidence that there was any particular problem that was unresolved and solved by the invention; Patent Owner simply points to global desires of any industry. Pet. Reply 24–25. We do not find compelling evidence of long-felt but unmet need here.

Patent Owner's evidence is useful as background, however. As Patent Owner points out, several rig designs incorporated two load paths prior to Patent Owner's invention, with Chevron S-55 and Rike in the 1960s and several more in the 1980s, but none of those designs caught on. PO Resp. 60–61 (citing Ex. 2088, 78:4–7 (Mr. Childers testifying that he did not believe a Horn-design rig was built), 102:1–5 (Mr. Childers testifying that he believed one Rike-design rig was built); Ex. 2075 ¶¶ 286–299 (Mr. Barnhill testifying as to various designs with two well centers that were proposed but never constructed, including Horn)). Patent Owner offers evidence that there was an interest in deepwater drilling since the 1970s, which is relevant because dual load paths and offline stand building are more effective due to longer trip times in deepwater operations. Ex. 2170, 44–45. Effectively, the challenged claims are an amalgamation of isolated technologies available in the 1960s and 80s, yet it was Patent Owner in the 1990s that coined the term "dual activity" for a combination of these technologies and where rigs embodying this technology are put in commercial use. This again indicates

to us that the *combination* of claimed features was what allowed the technology to gain acceptance and use.

*c. Synthesis of the Objective Evidence*

An analysis of objective evidence typically involves placing the evidence offered by Patent Owner into several doctrinal buckets—commercial success, praise, copying, etc.—and then analyzing each of these buckets. Here, the evidence in many of the individual buckets is weak with respect to the isolated purpose of that bucket (e.g., to show copying). Others, as we have indicated above, are stronger (e.g., industry praise). Some are mixed (e.g., commercial success). However, the evidence tells a story, and a bucket-by-bucket analysis would miss what the evidence says.

At a high level, Patent Owner has combined two separate forms of "dual activity" from the prior art—dual load path stations and offline operations—into a single rig. Although rigs with these separate forms of "dual activity" had been known for some time prior to the invention, the evidence suggests that these forms of "dual activity" rigs were not a factor in the marketplace. Starting with dual load paths and adding offline, or the other way around, was not a large technical leap, unpredictable, or without reason for a person of ordinary skill in the art to do so, as our above analysis of Petitioner's ground shows. However, despite the thin distinction over the prior art, when Patent Owner released its product combining the prior forms of what we now know as "dual activity," and coined the term "dual activity," there was a significant change in the market for drilling rigs. And even though much of what the industry was passing off as "dual activity" was simply prior art, the evidence objectively shows that companies thought it

was beneficial for them to also offer something to compete, and that they even borrowed Patent Owner's marketing term to show that they had a competitive product.

Although we agree with Petitioner that this was to some extent marketing, it shows that competitors felt they needed to modify their ships to have the same or similar features to compete. Whether this falls in the doctrinal bucket of "praise" or "copying" is immaterial as the evidence shows, objectively, that something was unique about the particular combination of features offered by Patent Owner and recited in the challenged claims that was not unique when those elements were left uncombined, and that competitors recognized the uniqueness. Petitioner argues that "bringing known features to the market is not sufficient for showing non-obviousness" (Pet. Reply 19), and we agree, but what Patent Owner has done here is brought a *combination* of known features. That combination was not known in the market, and Patent Owner's competitors reacted to that combination by praising the combination as innovative and by following suit. It moved the industry. Accordingly, this is a case where the combination of features first appears to have been obvious but, by seeing the marketplace's reaction, appears not to have been obvious.

*4. Conclusion for Obviousness Grounds*

The claimed invention is the combination of two features known in the art—dual load paths and a means for transfer between them. We have found reasons for a person of ordinary skill in the art to have combined the two. The objective evidence of non-obviousness militates against a conclusion of obviousness, however. The evidence discussed in the

commercial success section shows that competitors sought to emulate Patent Owner's combination and considered the combination of features a must-have. The evidence discussed in the industry praise section shows that the combination was considered by the industry to be a paradigm shift. The evidence discussed in the industry skepticism section shows that the industry first took a hard look at certain features such as dual load paths only after Patent Owner's combination was introduced. The evidence in the long-felt need section shows that features known in the prior art individually were not commercially viable but that Patent Owner's combination of those features was viable. As a whole, the evidence suggests that all of the pieces were in place but that Patent Owner's combination of dual load path and offline stand building (via the transfer means) is what made the broader concept of "dual activity" marketable, when separately they were not. In our view, this record shows persuasive objective indicia of non-obviousness. Having weighed the evidence of obviousness and non-obviousness, we determine that Petitioner has not established by a preponderance of the evidence that the claimed subject matter would have been obvious.

## IV. ORDER

In view of the foregoing, it is hereby:

ORDERED that no claims of the '781, '851, or '069 patents patent have been shown by a preponderance of the evidence to be unpatentable;

FURTHER ORDERED that this is a Final Written Decision under 35 U.S.C. § 318(a) for IPR2015-01929, IPR2015-01989, and IPR2015-01990, and that parties to the proceeding seeking judicial review of the decision

under 35 U.S.C. § 319 must comply with the notice and service requirements of 37 C.F.R. § 90.2;

FURTHER ORDERED that this Decision is provisionally entered under seal and subject to the protective order, and that a public version will be entered in due course;

FURTHER ORDERED that Petitioner's Motion to Seal is denied, and that Petitioner may refile a Renewed Motion to Seal within 10 business days of this Decision;

FURTHER ORDERED that Patent Owner's Motion to Seal is granted-in-part, and we order sealed Exhibits 2077, 2080, 2094, 2097, 2099, 2101, 2102, 2107, 2110–2112, 2115, 2118, 2130–2132, 2152, 2165, 2174, 2193, 2194, 2200, and 2201, Patent Owner's Response, and Patent Owner's demonstratives in each proceeding, and that Patent Owner may refile a Renewed Motion to Seal within 10 business days of this Decision for those exhibits for which the motion was not granted;

FURTHER ORDERED that any either Renewed Motion may contain as an exhibit thereto arguments in support of the motion from a third party, if applicable;

FURTHER ORDERED that the parties are to file redacted copies of any paper or exhibit submitted by a party that was cited in this Decision, if one does not yet exist;

FURTHER ORDERED that the parties are to meet and confer in good faith to provide a proposed redacted copy of this Decision and of the transcript of the oral hearing, in consultation with third parties Pacific and

Stena, due within 1 calendar month from the date of this Decision, or the next business day if that date falls on a federal holiday or weekend;

FURTHER ORDERED that, for the proposed redacted copy of this Decision, the parties will number each proposed redaction and identify which party proposes the redaction, and will, in a Motion to Seal the Final Written Decision, explain why it seeks the redaction, and may attach as an exhibit thereto arguments in support of the motion from a third party;

FURTHER ORDERED that all papers and exhibits currently under seal, regardless of the status of a motion to seal, will remain under seal until at least 45 days after final resolution of this proceeding, which includes resolution of any appeal, rehearing, or resulting proceedings, and that the parties are authorized to file a Motion to Expunge any papers or exhibits it has filed under seal, but no earlier than final resolution of this proceeding.

IPR2015-01929 (Patent 6,047,781)
IPR2015-01989 (Patent 6,085,851)
IPR2015-01990 (Patent 6,068,069)

For PETITIONER:

Matthew Reeves
LOCKE LORD LLP
mreeves@lockelord.com

For PATENT OWNER:

Mark Garrett
W. Andrew Liddell
Charles Walker
Mark Eberhard
NORTON ROSE FULBRIGHT US LLP
mark.garrett@nortonrosefulbright.com
andrew.liddell@nortonrosefulbright.com
charles.walker@nortonrosefulbright.com
mark.eberhard@nortonrosefulbright.com