IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

TRANSOCEAN OFFSHORE DEEPWATER DRILLING, INC.,	§	
	§	
Plaintiff,	§	
	§	
V	§	CIVIL ACTION NO. H-08-3287
	§	
STENA DRILLING LIMITED, *et al.*,	§	
	§	
Defendants.	§	

MEMORANDUM AND ORDER CONSTRUING DISPUTED CLAIMS

Transocean Offshore Deepwater Drilling, Inc. sued Stena Drilling Limited, Stena Drillmax Limited, and Stena Drillmax III Limited (together, "Stena"), alleging that Stena infringed three Transocean patents relating to multi-activity offshore exploration and drilling rigs: U.S. Patent No. 6,085,851 (the '851 Patent); U.S. Patent No. 6,047,781 (the '781 Patent); and U.S. Patent No. 6,068,069 (the '069 Patent). (Docket Entry No. 22). The '851 Patent is the parent patent. The '781 Patent is a continuation of the '851 Patent, and the '069 Patent is a continuation of the '781 Patent. (*See* Docket Entry No. 74 at 5 n.5). The patents all relate to offshore oil exploration and drilling. Transocean seeks damages for, and an injunction against, Stena's alleged infringement and inducement of infringement.

The parties dispute how to construe terms in claims 10–12 of the '851 Patent; claims 10–13 and 30 of the '781 Patent; and claims 17–19 of the '069 Patent. The parties submitted tutorials, briefs, and exhibits.[1] The court held a hearing under *Markman v. Westview Instruments*,

[1] Transocean filed a claim-construction brief, (Docket Entry No. 66), Stena responded, (Docket Entry No. 74), Transocean replied, (Docket Entry No. 78), and Stena surreplied, (Docket Entry No. 81). Before the *Markman*

Inc., 517 U.S. 370 (1996),[2] at which counsel presented arguments supporting their competing claim constructions.

Based on the briefs, the record, the arguments of counsel, and the applicable law, this court construes the disputed terms as set out in the following table:

Disputed Term	Court's Construction
"a derrick" ('781 Patent, claim 10) **"a drilling superstructure"** ('851 Patent, claims 10, 12; '781 Patent, claim 30; '069 Patent, claims 17, 19)	"a single structure mounted upon a drilling deck that supports the load of drilling operations"
"tubular advancing station connected to said drilling superstructure for advancing tubular members" ('069 Patent, claim 17)	"an assembly of equipment capable of advancing tubular members to the seabed"
"means . . . for transferring tubular assemblies" ('851 Patent, claim 10; '781 Patent, claims 10, 30)	A means-plus-function governed by § 112 ¶ 6. Function: transferring tubular assemblies directly between advancing stations or indirectly through a setback envelope. Structure: overhead derrick cranes, rail supported pipe handlers, or equivalent structure.

hearing, the parties submitted a revised joint claim-construction chart. (Docket Entry No. 82). The parties also submitted tutorials. (Docket Entry Nos. 26 (Transocean), 27 (Stena)).

[2] The minute entry for the *Markman* hearing is at Docket Entry No. 87, and the transcript is at Docket Entry No. 91.

"assembly . . . operable to transfer tubular assemblies") ('069 Patent, claim 17)	A means-plus-function governed by § 112 ¶ 6. Function: transferring tubular assemblies directly between advancing stations or indirectly through a setback envelope. Structure: overhead derrick cranes, rail supported pipe handlers, or equivalent structure.
"tubular handling system for transferring tubular assemblies between said first tubular setback envelope and said second tubular setback envelope and said first top drive station and said second top drive station" ('781 Patent, claim 13)	A means-plus-function governed by § 112 ¶ 6. Function: transferring tubular assemblies directly between advancing stations or indirectly through a setback envelope. Structure: overhead derrick cranes, rail supported pipe handlers, or equivalent structure.
a "well" ('851 Patent, claim 10; '781 Patent, claims 10, 30; '069 Patent, claim 17) **"the well"** ('851 Patent, claim 10; '781 Patent, claims 10, 30; '069 Patent, claim 17)	"one or more wells"
"drilling operations" ('851 Patent, claim 10; '781 Patent, claims 10–11, 30; '069 Patent, claim 17) **"drilling activity"** ('851 Patent, claim 10; '781 Patent, claims 10, 30; '069 Patent, claim 17)	"operations required to construct a well"

"auxiliary drilling activity" ('851 Patent, claim 10; '781 Patent, claim 30; '069 Patent, claim 17) **"drilling operations auxiliary to said drilling operations"** ('851 Patent, claim 10; '781 Patent, claims 30, 30; '069 Patent, claim 17) **"operations auxiliary to drilling operations"** ('851 Patent, claim 10; '781 Patent, claims 10, 30; '069 Patent, claim 17) **"operations . . . auxiliary to said drilling operations"** ('781 Patent, claims 10–11)	"operations removed from the critical path for drilling a well"

The court's construction of "tubular advancing station connected to said drilling superstructure for advancing tubular members," "assembly . . . operable to transfer tubular assemblies," and "tubular handling system for transferring tubular assemblies between said first tubular setback envelope and said second tubular setback envelope and said first top drive station and said second top drive station" are **tentative**. The parties may file reactions, no longer than ten pages, addressing the tentative rulings, due no later than **Friday, November 14, 2014**.

The reasons for these claim-construction rulings are explained in detail below.

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I. Background

A. Summary of the Technology

Conventional deep-sea drilling requires a hole—known as a "wellbore"—in the seabed. Constructing the wellbore requires the driller to alternate between drilling the hole and lining it with pipe. (Docket Entry No. 26 at 1–2). The bit used to drill the hole is suspended on a "drill string." The drill string is made up of sections or "joints" of drill pipe, which the parties call "tubular members," "tubular assemblies, or "tubular strings." The tubular members are connected to each other on the drilling rig. Usually, a hoist apparatus called a "drawworks"[3] is attached to the drill string to raise and lower it using a "traveling block." As the hoisting equipment lowers the drill bit to the seabed, the drill string is lengthened. Transocean calls the location where this lengthening occurs a "tubular advancing station." There, a rotary table grips and supports the suspended drill string, the traveling block is detached, and a new joint of drill pipe is connected to the string. The hoist is then reattached to the string, the rotary table releases its grip, and the drill string continues its descent to the seabed. Once the new joint has reached the drill floor, the process repeats. Downward progress halts as each new joint of drill pipe is added to the string. This process continues until the drill bit has reached the seabed.

The advent of the "top drive"—a large, powerful motor hung from the traveling block—expedited wellbore drilling by allowing drillers to add multiple joints of drill pipe, typically in "stands" of three, to the drill string at the same time. Before top drives, rotary-table rigs could attach only one 30-foot joint to the drill string at a time. The drill-pipe stands are preassembled

[3] "[T]he drawworks is a large winch that spools a heavy cable, called the drilling line." (Docket Entry No. 27 at 3). The drilling line runs from the drawworks, over the crown block, and to the traveling block. (*See id*, figure depicting the structure).

and vertically stored in areas that the patents refer to as "setback envelopes," located near the drilling stations. Equipment called "iron roughnecks" travel on tracks to and from the setback envelopes to thread the preassembled stands on the drill string.

Drilling begins when the drill bit reaches the seabed. The top drive attaches to the drill string and turns the drill bit.[4] The initial wellbore is drilled and the drill string is raised back to the surface. After the drill pipe is raised, a string of "casing pipe"—a type of tubular steel—is lowered to the seabed. The casing pipe lines the wellbore and provides structural stability. The lowering of casing pipe to the seabed is frequently interrupted as additional joints of casing are added to the drill string.

Once the casing reaches the wellbore, it is cemented in place. This process repeats by drilling and casing a slightly smaller hole through the original cemented casing, but deeper. (Docket Entry No. 26 at 8). When the wellbore reaches the intended depth, the driller installs a "blowout preventer" on the wellbore's top. The blowout preventer is intended to prevent the uncontrollable escape of oil and gas from the well.

Like the drill string, the blowout preventer is connected to, and lowered from, the drilling rig by steel tubulars. These tubulars, called "riser pipe," are thicker and heavier than the drill pipe. The riser-pipe string acts as an "umbilical cord" between the well and the drilling rig. Due to the size of the blowout preventer and riser, lowering the blowout preventer to the well may take three days or more. (*Id.* at 9). Once the blowout preventer is in place, drilling continues through the riser pipe and blowout preventer until the wellbore is deep enough to reach the oil and gas deposits.

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[4] A rotary table may also rotate the drill string and the drill bit. (Docket No. 26 at 3–4).

Conventional drilling rigs have a single drive and drawworks and can lower and raise only one string at time. Transocean's "dual-activity" drill rig patent claims a faster and more efficient drilling process by having multiple systems capable of simultaneously lowering and raising the drill string, blowout preventer, and riser. (*See* Docket Entry No. 22-1, '781 Patent, Figure 5; *id.* at 3:58–66). The dual-activity drilling rig is intended to reduce the overall time to complete the wellbore, making it financially more attractive for companies to drill in deeper water where the greater depths require more time, and higher costs, to lower and raise the drill strings.

II. The Legal Standards for Constructing Claims

It is a "bedrock principle" that "'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). "[T]he construction of a patent, including terms of art within its claim, is exclusively within the province of the court." *Markman*, 517 U.S. at 372. A court is to read the patent from the vantage of one with ordinary skill in the art at the time of the invention. *Phillips*, 415 F.3d at 1313. Such a person "'is deemed to read the words used in the patent documents with an understanding of their meaning in the field, and to have knowledge of any special meaning and usage in the field.'" *Id.* (quoting *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1998)); *see also Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed. Cir. 2005) (cautioning courts not to interpret claim terms "in a vacuum" (internal quotations omitted)). Claim terms are "'generally given their ordinary and customary meaning,'" which is "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Phillips*, 415 F.3d at 1312–13 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)).

When the ordinary meaning is readily apparent, claim construction "involves little more than the application of the widely accepted meaning of commonly understood words." *Id.* at 1314. If this meaning is not readily apparent, the court reviews "the intrinsic evidence of record, *i.e.*, the patent itself, including the claims, the specification and, if in evidence, the prosecution history." *Vitronics*, 90 F.3d at 1582; *see also Am. Piledriving Equip., Inc. v. Geoquip, Inc.*, 637 F.3d 1324, 1331 (Fed. Cir. 2011) ("[T]he role of a district court in construing claims is . . . to give meaning to the limitations actually contained in the claims, informed by the written description, the prosecution history if in evidence, and any relevant extrinsic evidence."). The

court first looks "to the words of the claims themselves, both asserted and nonasserted, to define the scope of the patented invention." *Vitronics*, 90 F.3d at 1582. Claims must be construed in context of the surrounding claim language. *ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1088 (Fed. Cir. 2003) ("[T]he context of the surrounding words of the claim also must be considered in determining the ordinary and customary meaning of those terms.").

The Federal Circuit has repeatedly stated that "claims 'must be read in view of the specification, of which they are part.'" *Phillips*, 415 F.3d at 1315 (quoting *Markman*, 52 F.3d 967, 979 (Fed. Cir. 1995)). The specification is a "concordance for the claims." *Id.* (quoting *Autogiro Co. of Am. v. United States*, 384 F.2d 391, 397–98 (Ct. Cl. 1967)). It is the "best source for understanding a technical term." *Id.* (quoting *Multiform Desiccants*, 133 F.3d at 1478); *see also Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1360 (Fed. Cir. 2004) ("In most cases, the best source for discerning the proper context of claim terms is the patent specification wherein the patent applicant describes the invention."). The specification is examined "to determine whether the inventor has used any terms in a manner inconsistent with their ordinary meaning." *Vitronics*, 90 F.3d at 1582. When the specification "reveal[s] a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess . . . the inventor's lexicography governs." *Phillips*, 415 F.3d at 1316. "In other cases, the specification may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor." *Id.*; *see also Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (explaining that claim construction may deviate from the ordinary and customary meaning of a disputed term only if (1) "a patentee sets out a definition and acts as his own lexicographer, or (2) the patentee disavows the full scope of a claim term, either in the specification or during prosecution").

"'The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction.'" *Phillips*, 415 F.3d at 1316 (quoting *Renishaw PLC v. Marposs Società per Azioni*, 158 F.3d, 1243, 1250 (Fed. Cir. 1998)). "There is a fine line between construing the claims in light of the specification and improperly importing a limitation from the specification into the claims." *Retractable Techs., Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1305 (Fed. Cir. 2011). Courts must "capture the scope of the actual invention, rather than strictly limit the scope of claims to disclosed embodiments or allow the claim language to become divorced from what the specification conveys is the invention." *Id*.

"[A] court 'should also consider the patent's prosecution history, if it is in evidence.'" *Phillips*, 415 F.3d at 1317 (quoting *Markman*, 52 F.3d at 980). The prosecution history "can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id.*; *see also Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1381 (Fed. Cir. 2011) ("[T]he specification is the primary source for determining what was invented and what is covered by the claims, elucidated if needed by the prosecution history."). The prosecution history includes "all express representations made by or on behalf of the applicant to the examiner to induce a patent grant, or . . . to reissue a patent. . . . includ[ing] amendments to the claims and arguments made to convince the examiner that the claimed invention meets the statutory requirements of novelty, utility, and nonobviousness." *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985); *see also Sanofi-Aventis Deutschland GmbH v. Genentech, Inc.*, 473 F. App'x 885, 888 (Fed. Cir. 2012) ("We have held that an otherwise broadly defined term can be narrowed during

prosecution through arguments made to distinguish prior art."); *Phillips*, 415 F.3d at 1317 ("The prosecution history . . . consists of the complete record of the proceedings before the PTO and includes the prior art cited during the examination of the patent.").

"The doctrine of prosecution disclaimer is well established in Supreme Court precedent, precluding patentees from recapturing through claim interpretation specific meanings disclaimed during prosecution." *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003). The doctrine applies even if the concessions were not necessary to make the invention patentable. *See Uship Intellectual Props., LLC v. United States*, 714 F.3d 1311, 1315 (Fed. Cir. 2013) ("We find no support for [the] proposition that prosecution disclaimer applies only when applicants attempt to overcome a claim rejection. Our cases broadly state that an applicant's statements to the PTO characterizing its invention may give rise to a prosecution disclaimer."); *cf. Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1583 (Fed. Cir. 1995) ("Estoppel extends beyond the basis of patentability . . . . Clear assertions made during prosecution in support of patentability, whether or not actually required to secure allowance of the claim, may also create an estoppel."). The doctrine does not apply "where the alleged disavowal of claim scope is ambiguous." *Omega Eng'g*, 334 F.3d at 1324; *see also id.* at 1325 ("[W]e have required the alleged disavowing statements to be both so clear as to show reasonable clarity and deliberateness and so unmistakable as to be unambiguous evidence of disclaimer." (internal citation omitted)). Only when "the patentee has unequivocally disavowed a certain meaning to obtain his patent [does] the doctrine of prosecution disclaimer attach[] and narrow[] the ordinary meaning of the claim congruent with the scope of the surrender." *Id.* at 1324.

Courts may, within limits, also "rely on extrinsic evidence, which 'consists of all evidence external to the patent and prosecution history, including expert and inventor testimony,

dictionaries, and learned treatises.'" *Phillips*, 415 F.3d at 1317 (quoting *Markman*, 52 F.3d at 980). Although extrinsic evidence "'can shed useful light on the relevant art,' it is 'less significant than the intrinsic record in determining the legally operative meaning of claim language.'" *Zircon Corp. v. Stanley Black & Decker, Inc.*, 452 F. App'x 966, 972–73 (Fed. Cir. 2011) (quoting *Phillips*, 415 F.3d at 1317). As explained in *Phillips*, extrinsic evidence is "in general . . . less reliable than the patent and its prosecution history" for several reasons. *Phillips,* 415 F.3d at 1318. Extrinsic evidence is "not part of the patent" and was not created during the patent prosecution. *Id.* "[E]xtrinsic publications may not be written by or for skilled artisans." And expert reports and testimony created for litigation may "suffer from bias that is not present in intrinsic evidence." *Id.*

"[E]xtrinsic evidence may be useful to the court, but it is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." *Id.* at 1319. Such evidence must not relegate the intrinsic evidence to a mere "check on the dictionary meaning of a claim term." *Id.* at 1320; *see also id.* at 1321 (noting that relying on dictionaries "too often" causes "the adoption of a dictionary definition entirely divorced from the context of the written description"). "The sequence of steps used by the judge in consulting various sources is not important; what matters is for the court to attach the appropriate weight to be assigned to those sources in light of the statutes and policies that inform patent law." *Id.* at 1324.

This legal framework is applied to the parties' competing constructions of the disputed claim terms.

III. Analysis

A. "Derrick" and "Drilling Superstructure"

Transocean's Proposed Construction	Stena's Proposed Construction
"A structure mounted upon a drilling deck that supports the load of drilling operations."	"A single tower structure that supports the weight of the tubular strings used in drilling."

The terms "derrick" and "drilling superstructure" are in claims 10 and 30 of the '781 Patent, claims 10 and 12 of the '851 Patent, and claims 17 and 19 of the '069 Patent. The parties agree that "derrick" and "drilling superstructure" have the same meaning and that the patents use them interchangeably. (*See* Docket Entry No. 82-1 at 1). This ruling refers to the two terms as "derrick" for convenience.

The parties identify two primary disputes in constructing "derrick." The first is whether a "derrick" is limited to a "tower structure," as opposed to a broader range of "structures" that are not limited to tall towers. These other structures could include connected frames and other support assemblies. The parties agree that the Transocean patents cover only a single derrick, (Docket Entry No. 78 at 5), but Transocean does not agree to limit the definition to a tall tower, as Stena argues. The first dispute is whether a "single derrick" is limited to a tall tower.

The second dispute is whether a "derrick" includes all the support structures "mounted upon a drilling deck," which would include the base or support structure below the drill floor, as Transocean contends, or whether "derrick" is limited to the part of the structure above the drill floor, excluding the base or support structure, as Stena contends.

A third and more minor dispute is whether the "derrick" supports "the load of drilling operations," as Transocean contends, or supports "the weight of the tubular strings used in drilling," as Stena argues.

Each dispute is analyzed below.

1. Whether "Derrick" is Limited to a "Single Tower Structure"

Stena's proposed construction of "derrick" is a "single tower structure," limiting the claim term to a "tall" tower structure similar to the four-legged derrick in the specification. (Docket Entry No. 74 at 7). Transocean's proposed construction would not limit the claimed invention to such a tall tower.

The specification states that the invention is not limited to a four-sided tall derrick similar to that shown in Figure 5 of the '851 Patent. The specification states: "in a preferred embodiment, the multi-activity support structure is in the form of a four sided derrick." ('851 Patent, 8:14–15). But the next sentence states that the invention "is intended to include other superstructure [derrick] arrangements such as tripod assemblies or even two adjacent upright but interconnected frames." (*Id.* at 8:15–18 (brackets added)). The reference to tripod assemblies and adjacent upright interconnected frames is a representative, not a comprehensive, description of the types of structures that can constitute the "derrick." Stena has not pointed to language in the specification or claims limiting this broad description. The intrinsic evidence supports Transocean's construction of the disputed term.

Stena relies on the preferred embodiment of a four-sided derrick to support its argument that a "derrick" is limited to a "tall tower." (*See* Docket Entry No. 74 at 7 ("For instance, the patent figures depict derrick 40 as a tall tower.")). Stena contends that the tower must be "tall" based on the fact that "the stands of casing [pipe] are up to 125 feet long," requiring the derrick to "have a tower structure at least that large to accomplish the recited advantage." (*Id.*). But courts have "expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment."

Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 906 (Fed. Cir. 2004); *see also MySpace, Inc. v. GraphOn Corp.*, 672 F.3d 1250, 1255 (Fed. Cir. 2012) ("[L]imitations from parts of the written description, such as the details of the preferred embodiment, cannot be read into the claims absent a clear intention by the patentee to do so."). Stena has not shown why the fact that the tubular assemblies can be up to 125-feet tall necessarily limits the derrick structure to a "tall tower." For example, the record does not show that a mast or structure other than a tower could not handle 125-foot tall tubular assemblies. Indeed, in its original proposed claim construction, Stena stated that a derrick could be a "mast structure." (Docket Entry No. 23, Ex. C at 1). The fact that the preferred embodiment is a four-sided derrick does not limit the claim to that embodiment.[5]

The term "derrick" is not limited to a "tall tower structure."

2. Whether "Derrick" is "Mounted on a Drilling Deck"

Transocean contends that "derrick" means a structure "mounted upon a drilling deck." Stena argues that "mounted upon a drilling deck" should not be included in the definition. Although it appears that Transocean's proposed construction would be more restrictive and limit the claim scope, the opposite seems more accurate. Transocean's construction of "derrick" as the structure "mounted upon the drilling deck" results in the definition including the base or support structure below the drill floor and above the drilling deck. Construing "derrick" without the "mounted upon a drilling deck" language excludes the base from the definition of "derrick."

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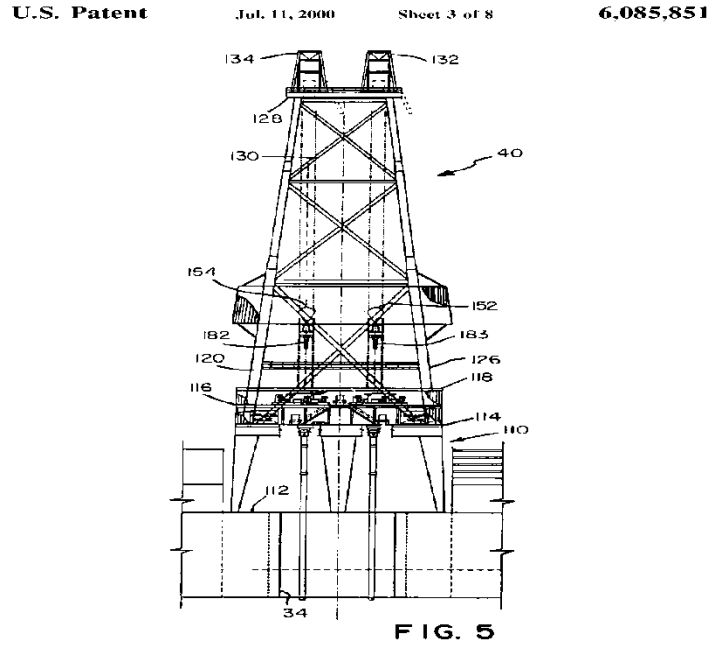
[5] Stena cites an excerpt from a document Transocean apparently filed before the European Patent Office stating that Transocean's invention was not "directed to any special or new components of offshore drilling activity." (Docket Entry No. 74, Ex. 18 at 68). The context in which Transocean made this statement is unclear. It is also unclear that a "tall tower structure" was the only type of derrick "well known in the art" when the document was filed. The record does not show that a different type of support structure, for example, a tripod assembly, upright interconnected frames, or mast systems were not well known in 2004, the year Transocean submitted the document to the European Patent Office.

The preferred embodiment provides helpful context. Figure 5 from the '851 Patent, shown below, is an elevational view of the "derrick" showing the preferred embodiment as mounted on a drillship substructure or drilling deck.



In this embodiment, the drill floor (114) is located above the base (110). Transocean contends that its construction results in defining the derrick (40) to include the base (110) that extends below the drill floor (114) and above the drilling deck (112).

The specification and claims support Transocean's construction that the base (110) is part of the derrick (40). The specification states that "[t]he derrick 40 *includes* a base 110 which is joined to the drillship substructure 112 symmetrically above the moon pool 34."[6] *See* '851 Patent, 6:21–23 (emphasis added)). Referring to diagrams showing the multi-activity derrick sequence of operations, the specification states that the derrick is "positioned upon a drilling deck." *Id.* at 8:33–34. Figures 9–22 are consistent with construing "derrick" as on the drilling

[6] "Drillship substructure" is synonymous with "drill deck."

deck, not just above the drilling floor. In Figure 13, the derrick (40) is the only structure on the drilling deck that the figure identifies; the base (110) legs are shown but the base is not identified. If "derrick" did not include the base and support structures below the drill floor, the base shown in Figure 13 would be separately identified and labeled.

Stena argues that the figures showing the sequence of operations are not useful for determining the derrick's structure because the reference to the figures is under the "Method of Operation" section of the specification, not the "Multi-Activity Drillship" and "Multi-Activity Derrick" sections. Stena does not explain why the fact that the figures are in the "Method of Operation" section of the specification is a reason to discount the specification's statement that "derrick 40 [is] positioned upon a drilling deck 190." *Id.* at 8:33–34. This language is consistent with the specification's other parts, specifically, the part of the "Multi-Activity Derrick" section stating that "[t]he derrick 40 includes a base 110." *Id.* at 6:21–22.

The references to "drilling superstructure" in the independent claims support Transocean's construction. The parties agree that "drilling superstructure" is synonymous with "derrick." Some of the disputed independent claims in the patents-in-suit claim a "drilling superstructure . . . mounted upon a drilling deck." *E.g.* '851 Patent, 14:21–22, claim 10 ("a drilling superstructure operable to be mounted upon a drilling deck); '781 Patent, 18:14–15, claim 30 (same). This claim language is the same as claiming a "derrick" "operable to be mounted upon a drilling deck." The claim and specification language are persuasive intrinsic evidence that a "derrick" includes the "base."

To support its construction, Stena relies on intrinsic evidence in the form of prior art cited in the patents. The Federal Circuit has recognized that "prior art cited in a patent or cited in the prosecution history of the patent constitutes intrinsic evidence." *Kumar v. Ovonic Battery Co.*,

351 F.3d 1364, 1368 (Fed. Cir. 2003); *Tate Access Floors, Inc. v. Interface Architectural Res., Inc.*, 279 F.3d 1357, 1371–72 n.4 (Fed. Cir. 2002). This prior art "can have particular value as a guide to the proper construction of the term, because it may indicate not only the meaning of the term to persons skilled in the art, but also that the patentee intended to adopt that meaning." *V-Formation, Inc. v. Benetton Grp. SpA*, 401 F.3d 1307, 1311 (Fed. Cir. 2005) (quoting *Arthur A. Collins, Inc. v. N. Telecom Ltd.*, 216 F.3d 1042, 1045 (Fed. Cir. 2000)).

The Transocean patents refer to prior art in which "derrick" did not include the base or support structure below the drill floor. One Transocean patent, U.S. Patent No. 6,056,071,[7] lists U.S. Patent No. 4,602,894 in the "References Cited" section. The prior-art '894 Patent separately describes the "derrick" and the structures supporting the derrick. (Docket Entry No. 74, Ex. 25, 3:5–9 (describing a "sub-base . . . support[ing] a superstructure upon which the derrick . . . [is] mounted"). Another prior-art patent, U.S. Patent No. 3,279,404, describes the "derrick platform" or support structure below the drill floor separately from the "derrick," which covers only the structure above the drill floor. (*Id.*, Ex. 26, fig. 1, 3:28–29). The prior-art '404 Patent, like the Transocean patents, contains an embodiment with upright support columns acting as a base supporting the drill floor and structures mounted on the drill floor. The use of "derrick" in the prior art is intrinsic evidence supporting Stena's argument that "derrick" does not include the base below the drill floor. As far as the court can determine, Transocean has not cited prior art defining "derrick" to include the base or support columns below the drill floor.

Stena's prior-art references are insufficient to support its construction, however, given the plain language in the specification and claims supporting Transocean's construction. *See Interactive Gift Express, Inc. v. Compuserve, Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001) (quoting

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[7] The '071 Patent is a child application of the '851 Patent. Transocean no longer asserts that Stena infringed this patent.

35 U.S.C. § 112 ¶ 2) ("In construing claims, the analytical focus must begin and remain centered on the language of the claims themselves, for it is that language that the patentee chose to use to 'particularly point out and distinctly claim the subject matter which the patentee regards as his invention.'"). First, as noted above, the specification in the Transocean patents states that the "derrick" includes the "base." Unlike the Transocean patents, the prior-art patents did not expressly define "[t]he derrick [to] include[] a base." *See* '851 Patent, 6:21. The Transocean patent claims state that the "drilling superstructure," which is synonymous with "derrick," is "mounted upon the drill deck," which is below the drill floor, meaning that the derrick includes the base. Second, while the Transocean patents cite the prior-art '894 and '404 Patents, the specification mentions only the '404 Patent.[8] But the reference to the '404 Patent is as an example of how the drillship can be "turret moored." The specification did not refer to the '404 Patent to explain the meaning of "derrick" or whether the "derrick" includes the base. The '404 Patent's use of "derrick" provides little help in determining whether the Transocean "patentee[s] intended to adopt th[e] same meaning" of "derrick." *See V-Formation*, 401 F.3d at 1311 (internal quotations omitted).

As to extrinsic evidence, Stena cites treatises defining "derrick" to exclude the base or substructure on which it sits. For example, *The Primer on Offshore Operations* states that a "standard derrick has four legs standing at the corner of the rig's substructure." (Docket Entry No. 74, Ex. 30, Ron Baker, A PRIMER OF OFFSHORE OPERATIONS 43, 109 (3d ed. 1998); *see also id.*, Ex. 15 Ron Baker, A PRIMER OF OFFSHORE OPERATIONS 173 (6th ed. 2001) (defining the "standard derrick" as having "four legs standing at the corners of the substructure and reaching

[8] Stena's response also mentions U.S. Patent No. 4,850,439, U.S. Patent No. 3,001,594, and UK Patent 2,291,664. These patents are listed only in the "References Cited" section. These patents, like the '894 Patent, are not mentioned in the specification.

to the crown block"); *id.*, Ex. 17 A DICTIONARY FOR THE OIL AND GAS INDUSTRY 16 (1st ed. 2005) (same). This supports Stena's argument that a person of ordinary skill in the art would understand a "derrick" and the base or substructure on which it rests on as two distinct structures. Transocean has not identified extrinsic evidence defining "derrick" as including the base or substructure.

The extrinsic evidence Stena cites, however, must be viewed "in the context of the intrinsic evidence." *Phillips*, 415 F.3d at 1319. Extrinsic evidence is "less reliable than the patent . . . in determining how to read claim terms," *id.* at 1318; intrinsic evidence is the principal source for claim construction and, when clear, overrides contrary extrinsic evidence. The clear intrinsic evidence weighs strongly in favor of construing "derrick" to include the "base." The extrinsic evidence Stena has cited is insufficient to overcome the clear language in the specification and claims defining "derrick" to include the base.

The court construes the claim terms "derrick" and "drilling superstructure" to include the "mounted upon a drilling deck" language in Transocean's proposed definition.

3. Whether a derrick supports "the load of drilling operations" or the "weight of the tubular strings used in drilling"

The parties agreed that "load" and "weight" have the same meaning and are used interchangeably. (Docket Entry No. 91 at 74). The parties dispute whether "derrick" should be construed to mean a structure that supports the "weight of the tubular strings used in drilling," as Stena argues, or as a structure that "supports the load of drilling operations," as Transocean contends.

Stena argues that Transocean's proposed definition is ambiguous because the term "drilling operations" is imprecise and does not reveal the claim boundaries. According to Stena, the term "drilling operations" is so broad as to include drilling mud pumps, blowout preventers, riser pipe, roughnecks, and possibly even the ship galley. (Docket Entry No. 74 at 11). Stena contends that the inventions concern a narrower range of "operations" closely related to drilling the wellbore. Stena notes that the vast majority of equipment used to construct the wellbore—which includes the drill pipe, drill bits, casing pipe, riser pipe, and blowout preventer—is attached to the derrick via tubular strings.

Transocean responds with arguments that Stena's proposed construction is too narrow. Although most drilling equipment is attached to the derrick using tubular strings, that is not true of all drilling equipment. Some drilling equipment can be lowered and raised using wirelines attached to the derrick, (Docket Entry No. 91 at 38, 73), making Stena's construction underinclusive.

The court agrees that Stena's construction is too narrow and that Transocean's is not improperly ambiguous. The weight or load that the derrick supports is construed to mean the "load of drilling operations," not merely the "weight of the tubular strings used in drilling." The court's ruling on the construction of "derrick" and "drilling superstructure" is as follows:

Disputed Terms	Court's Construction
"derrick" and "drilling superstructure"	"a single structure mounted upon a drilling deck that supports the load of drilling operations"

B. "Tubular advancing station connected to said drilling superstructure for advancing tubular members."

Transocean's Proposed Construction	Stena's Proposed Construction
An assembly of equipment capable of advancing tubular members to the seabed.	A means-plus-function governed by § 112 ¶ 6. Function: advancing tubular members Structure: equipment for hoisting (drawworks, cable, sheaves, and a traveling block), equipment for making-up and breaking down tubular strings (combination of an iron roughneck, pipe tong, spinning chain, a Kelly and/or rotary swivel), and optionally equipment for rotating tubular strings (top drive or rotary table).

This section of the Memorandum and Opinion, unlike the others, is a **tentative** ruling construing a disputed term in claim 17 of the '069 Patent. District courts may issue tentative rulings when the decision is a close one and the parties' reactions could provide greater assurance of accuracy before a final ruling is issued. Transocean and Stena may file reactions, up to ten pages each, limited to this tentative ruling, no later than **Friday, November 14, 2014**.

Stena asserts that the disputed claim term, "tubular advancing station connected to said drilling superstructure for advancing tubular members," is properly construed as a means-plus-function limitation subject to 35 U.S.C. § 112 ¶ 6. Transocean argues that the claim sufficiently denotes structure to avoid § 112 ¶ 6. The court's tentative ruling is that Transocean's arguments are more persuasive.

1. The Applicable Law

The Federal Circuit has consistently held that "[m]eans-plus-function claiming applies only to purely functional limitations that do not provide the structure that performs the recited function." *Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090, 1096 (Fed. Cir. 2008) (alteration in the original) (quoting *Phillips v. AWH Corp.*, 415 F.3d at 1311 (Fed. Cir. 2005)). Under 35 U.S.C. § 112 ¶ 6, "[a]n element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof." Means-plus-function claims do not cover all possible means for performing the stated function. Instead, they are "construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." *Phillips*, 415 F.3d at 1309.

Courts treat claims using the term "means" as "invok[ing] a rebuttable presumption that § 112 ¶ 6 applies." *CCS Fitness Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1369 (Fed. Cir. 2002); *see also Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1358 (Fed. Cir. 2004). If the claim does not use the term "means," "a rebuttable presumption that § 112 ¶ 6 does not apply" is triggered. *CCS Fitness*, 288 F.3d at 1369. "[T]he presumption flowing from the absence of the term 'means' is a strong one that is not readily overcome." *Lighting World*, 382 F.3d at 1358; *see also Flo Healthcare Solns., LLC v. Kappos*, 697 F.3d 1367, 1374 (Fed. Cir. 2012) ("When the claim drafter has not signaled his intent to invoke § 112 ¶ 6 by using the term 'means,' we are unwilling to apply that provision without a showing that the limitation essentially is devoid of anything that can be construed as structure").

"The use of the term 'means' is central to the analysis, because the term 'means,' particularly as used in the phrase 'means for,' is part of the classic template for functional claim elements, and has come to be closely associated with means-plus-function claiming." *Lighting World*, 382 F.3d at 1358 (internal quotations and citations omitted). The presumption in favor of

construing a claim using the word "means" as a § 112 ¶ 6 "means-plus-function" claim is based on the statutory language "that an element in a claim for a combination 'may be expressed' as a means for performing a function," which gives the patentee the choice of the means-plus-function claiming. *Greenberg v. Ethicon Endo–Surgery, Inc.*, 91 F.3d 1580, 1584 (Fed. Cir. 1996). "The question then is whether, in the selection of claim language, the patentee must be taken to have exercised that option." *Id.*

The disputed claim term "tubular advancing station . . . for advancing tubular members," does not use the word "means." Stena acknowledges that the presumption is against applying § 112 ¶ 6. *See Lighting World*, 382 F.3d at 1358; (Docket Entry No. 74 at 16). To overcome the presumption, Stena must present or identify evidence in the record showing by a preponderance that "the claim term fails to 'recite sufficiently definite structure' or recites a 'function without reciting sufficient structure for performing that function.'" *Lighting World*, 382 F.3d at 1358 (quoting *CCS Fitness*, 288 F.3d at 1369).

Several cases from the Federal Circuit are particularly instructive on whether the drafter invoked § 112 ¶ 6 for claims that do not use the word "means." The cases include *Greenberg v. Ethicon Endo–Surgery, Inc.*, 91 F.3d 1580 (Fed. Cir. 1996); *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354 (Fed. Cir. 2004); *Mas-Hamilton Group v. LaGard, Inc.*, 156 F.3d 1206 (Fed. Cir. 1998); *Massachusetts Institute of Technology* ("*MIT*") *v. Abacus Software*, 462 F.3d 1344; (Fed. Cir. 2006); and *Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090 (Fed. Cir. 2008).

In *Greenberg*, the Federal Circuit examined a patent for endo-mechanical surgical instruments, which are thin surgical instruments inserted into the body through small openings. 91 F.3d at 1580. The court held that the claim term "detent mechanism defining the conjoint

rotation" was not subject to means-plus-function claiming under § 112 ¶ 6. *Id.* at 1584. The court focused on the word "detent," which modified "mechanism" in the claim. Looking to dictionary definitions, the court found it "clear that the noun 'detent' denotes a type of device with a generally understood meaning in the mechanical arts, even though the definitions are expressed in functional terms." *Id.* at 1583. The court acknowledged "that the term 'detent' does not call to mind a single well-defined structure, but the same could be said of other commonplace structural terms such as 'clamp' or 'container.'" *Id.* After the term "detent mechanism," the drafter set out the structure defining the "detent mechanism," and did not use functional language to do so. When viewed in the context of the specification, the modifier "detent" recited structure, not function. *Id.* at 1584 ("A close reading of the specification reveals, however, that the term is used in that portion of the patent simply as a shorthand way of referring to each of the key structural elements of the invention.").

In *Lighting World*, the Federal Circuit reversed the trial court's ruling that the term "connector assembly for connecting each pair of adjacent support members" was in means-plus-function form, holding that the claim did not use "means" and one of ordinary skill in the art would understand "connector" to denote structure. The trial court had reasoned that "in order to be regarded as structural for purposes of section 112 ¶ 6, a claim limitation must identify a specific structure and not use a generic term that includes a wide variety of structures." 382 F.3d at 1359. The Federal Circuit found the district court's interpretation "unduly restrictive." *Id.* The term "connector assembly" provided sufficient structure and the presumption against means-plus-function construction stood. *Id.* at 1360–63.

The Federal Circuit did not hold in *Lighting World* that the term "assembly," standing alone, described a structure. Rather, the term "connector," with and modifying "assembly,"

described a structure. The court relied on dictionary definitions for "connector," finding that it had a "reasonably well-understood meaning as a name for structure." *Id.* at 1361 (noting the dictionary definitions of "connector" as "any of various devices for connecting one object to another" and "connect" as "to join, fasten, or link together . . . by means of something intervening"). Based on these definitions, the court construed "connector assembly" in the claim to "mean[] a unit that joins, fastens, or links each pair of adjacent support members." *Id.* The court explained:

> In considering whether a claim term recites sufficient structure to avoid application of section 112 ¶ 6, we have not required the claim term to denote a specific structure. Instead, we have held that it is sufficient if the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and even if the term identifies the structures by their function.

Id. at 1359–60.

The court elaborated, noting that "'the fact that a particular mechanism . . . 'means for performing a specified function' within the meaning of section 112(6).'" *Id.* at 1360 (quoting *Greenberg*, 91 F.3d at 1583). It did not matter "that the term 'connector assembly' does not bring to mind a particular structure." *Id.* The important inquiry was "whether the term is one that is understood to describe structure, as opposed to a term that is simply a nonce word or a verbal construct that is not recognized as the name of structure and is simply a substitute for the term 'means for.'" *Id.*

The court in *Lighting World* reaffirmed the strong presumption that a claim limitation not using the word "means" is not in means-plus function form. The court stated:

> [I]t is not surprising that we have seldom held that a limitation not using the term "means" must be considered to be in means-plus-function form. In fact, we have identified only one published opinion since *Greenberg* in which we have done so, and that case

> provides a useful illustration of how unusual the circumstances must be to overcome the presumption that a limitation lacking the word "means" is not in means-plus-function form. Th[at] exceptional case is *Mas-Hamilton*.

Id. at 1362.

In *Mas-Hamilton Group v. LaGard, Inc.*, 156 F.3d 1206 (Fed. Cir. 1998), the Federal Circuit examined a patent for an electro-mechanical lock. The disputed claim term was a "lever moving element for moving the lever." The court held that the term failed sufficiently to describe structure and was in means-plus-function form, despite the absence of the word "means." The court assumed that the term "element" was nonstructural. *See id.* at 1213–14. "Element" was preceded by the modifier "lever moving," which described a function, not a structure. The specification did not define the term "lever moving element" as a structure. *Id.* at 1214. There was no dictionary definition of "element" suggesting structure, and no structural meaning for the term in the relevant-art sources. The court concluded that the nonstructural term "element" was modified only by functional language, defeating the presumption against finding means-plus-function form. *Id.*

The Federal Circuit in *Lighting World* distinguished *Mas-Hamilton* in concluding that "connector assembly" sufficiently described structure to avoid § 112 ¶ 6, while "lever moving element" did not. *See Lighting World*, 382 F.3d at 1363. The term "connector assembly," unlike "lever moving element," had a structural definition understood in the relevant art and defined in the patent specification, dictionaries, and expert testimony. *Id.* And the patent history in *Mas-Hamilton* showed that the patentee "had used the terms 'member,' 'element,' and 'means' interchangeably, and in the patent itself the patentee described the 'lever moving element' and the 'movable link member' as the '[m]eans . . . for' moving the lever, and the '[m]eans . . . for

reasonably maintaining the pivotable lever in a position substantially disengaged.'" *Id.* at 1362 (brackets and omissions in the original).

Two other Federal Circuit cases are also instructive. In *MIT v. Abacus Software*, 462 F.3d 1344, 1355 (Fed. Cir. 2006), the court held that the term "colorant selection mechanism for receiving said modified appearance signals and for selecting corresponding reproduction signals representing values of said reproducing colorants" rebutted the presumption against means-plus-function construction because the claim used the nonstructural term "mechanism," preceded by the nonstructural modifier "colorant selection." The specification did not denote "colorant selection" as a structure. "Colorant selection" had no dictionary definition signifying structure and no known structural meaning in the art. *Id.* at 1354. The claim was in means-plus-function form despite the absence of the word "means."

The Federal Circuit reached the same result in *Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090 (Fed. Cir. 2008). Construing the claim term "mechanism for moving said finger," the court held that the term "mechanism" was neither structural nor modified by a structural term. *Id.* at 1096–97. Instead, the functional term "for moving" modified the word "mechanism." The term "said finger" was structural, but "said finger" did not modify, and could not be used to define, "mechanism." A person of ordinary skill in the art "would have no recourse but to turn to the . . . specification to derive a structural connotation for . . . 'mechanism for moving said finger.'" *Id.* at 1096. The court noted that its conclusion might have been different if the patent provided a structural context for the meaning of "mechanism." For example, the patent could have used terms such as "finger displacement mechanism," "lateral projection/retraction mechanism," or "clamping finger actuator." *Id.* at 1096. Had those terms been used, the "court could have inquired beyond the vague term 'mechanism' to discern the understanding of one of

skill in the art. If that artisan would have understood such language to include a structural component, th[e] court's analysis may well have turned out differently." *Id.* at 1096–97. But instead of using language denoting structure, "the applicant chose to express this claim element as 'a means or step for performing a specified function without the recital of structure, material, or acts in support thereof.'" *Id.* at 1097 (quoting 35 U.S.C. § 112 ¶ 6).

The following chart summarizes the disputed terms in these cases and the Federal Circuit's constructions:

Case	Disputed Term	Means-Plus-Function
Greenberg v. Ethicon Endo-Surgery, Inc., 91 F.3d 1580 (Fed. Cir. 1996)	"detent mechanism defining the conjoint rotation"	No
Lighting World, Inc. v. Birchwood Lighting, Inc., 382 F.3d 1354 (Fed. Cir. 2004)	"connector assembly for connecting each pair of adjacent support members"	No
Mas-Hamilton Group v. LaGard, Inc., 156 F.3d 1206 (Fed. Cir. 1998)	"lever moving element for moving the lever"	Yes
Massachusetts Institute of Technology v. Abacus Software, 462 F.3d 1344 (Fed. Cir. 2006)	"colorant selection mechanism for receiving said modified appearance signals and for selecting corresponding reproduction signals representing values of said reproducing colorants"	Yes
Welker Bearing Co. v. PHD, Inc., 550 F.3d 1090 (Fed. Cir. 2008)	"mechanism for moving said finger"	Yes

The Federal Circuit's guidance in *Greenberg, Lighting World, Mas-Hamilton, MIT*, and *Welker Bearing* indicates that a nonstructural term must be modified by a term connoting structure or having a structural meaning in the art to avoid a means-plus-function construction. These cases are applied to analyze whether the disputed claim term, "tubular advancing station connected to said drilling superstructure for advancing tubular members," denotes sufficient structure to avoid invoking § 112 ¶ 6.

2. Whether "tubular advancing station connected to said drilling superstructure for advancing tubular members" is in means-plus-function form

Claim 17 of the '069 Patent claims a "tubular advancing station connected to said drilling superstructure for advancing tubular members." '069 Patent, 17:22–23. The disputed claim term is not only "tubular advancing station," but includes "connected to said drilling superstructure" and the functional language "for advancing tubular members." In the briefs, Transocean focused on the three-word term "tubular advancing station," while Stena focused on the term "tubular advancing station . . . for advancing tubular members."

The disputed term does not use "means" or "means for," triggering the presumption against mean-plus-function construction. Transocean argues that Stena cannot overcome the presumption. Transocean construes "tubular advancing station" to mean "an assembly of equipment capable of advancing tubular members to the seabed." (Docket Entry No. 82–1 at 14). Transocean argues that a "station" is a place where the equipment capable of performing a certain function is collected, and that this connotes sufficient structure to maintain the presumption. Transocean recognizes that the structure is defined in terms of what the equipment assembled there can do—advance tubular members—but relies on *Lighting World*'s holding that

"it is sufficient if the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and even if the term identifies the structure by their function." 382 F.3d at 1359–60.

Stena argues that the disputed term does not connote structure and is wholly defined by the function it performs (advancing tubular members), making it a classic means-plus-function limitation. Stena argues for a means-plus-function construction, with the function defined as "advancing tubular members" and the structure defined as "equipment for hoisting (drawworks, cable, sheave, and a traveling block), equipment for making-up and breaking down tubular strings (combination of an iron roughneck, pipe tong, spinning chain, a kelly and/or rotary swivel), and optionally equipment for rotating tubular string (top drive or rotary table)." (Docket Entry No. 82–1 at 14–15).

The claim uses the term "station." Transocean construes "station" as the place where equipment is collected; Stena construes it as a vague term not denoting structure, like the term "element" in *Mas-Hamilton*.

The dictionary defines "station" as follows:

1a: the place or position in which something or someone stands or is assigned to stand or remain

1b: any of the places in a manufacturing operation at which one part of the work is done

1c: equipment used usually by one person for performing a particular job

2: the act or manner of standing: posture

3: a stopping place: as

a(1): a regular stopping place in a transportation route <a bus station>

a(2): the building connected with such a stopping place : depot []

b: one of the stations of the cross

4a: a post or sphere of duty or occupation

4b: a stock farm or ranch especially of Australia or New Zealand

5: standing, rank <a woman of high station>

6: a place for specialized observation and study of scientific phenomena <a seismological station> <a marine biological station>

7: a place established to provide a public service: as

a(1): fire station

a(2): police station

b: a branch post office

8: gas station

9a: a complete assemblage of radio or television equipment for transmitting or receiving

9b: the place in which such a station is located.

MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY 1219 (11th ed. 2003).

These definitions show that the common meaning of "station" includes meanings that connote structure. "Station" will usually connote structure when it means the location for performing certain operations or tasks, or the location for housing the equipment needed for such operations or tasks. These descriptions of "station" correspond to the dictionary definitions—"the places in a manufacturing operation at which one part of the work is done," an "assemblage of radio or television equipment for transmitting or receiving," and "the building connected with . . . [a regular stopping place] in the transportation route." *See id*. at 1219.

The word "station" by itself also has meanings that do not connote structure, such as a location or place where someone stands, "a post or sphere of duty or occupation" and "standing rank." *Id*. Stena argues that "station" is similar to such generic terms as "'mechanism,' 'means,'

'element,' and 'device,' [that] typically do not connote sufficiently definite structure," *see MIT*, 462 F.3d at 1354, and trigger § 112 ¶ 6.[9]

Claim language may "further define[] a generic term" such that it "can sometimes add sufficient structure to avoid 112 ¶ 6." *MIT*, 462 F.3d at 1354. In *Greenberg*, the modifying noun "detent" "denote[d] a type of device with a generally understood meaning in the mechanical arts, even though the definitions are expressed in functional terms." *Greenberg*, 91 F.3d at 1583. The court noted that multiple dictionaries defined "detent" such that a person of ordinary skill in the mechanical arts would know that it denoted a type of device and connoted structure. *Id.* Similarly, in *Lighting World*, the court looked to dictionaries and concluded that the "connector" modifying "mechanism" has a "reasonably well-understood meaning as a name for structure, even though the structure is defined in terms of the function it performs." 382 F.3d at 1361.

The modifying words "tubular advancing" precede the disputed term "station." If "station" alone does not sufficiently connote structure, one question is whether the modifying words "tubular advancing" add a sufficient reference to structure that one skilled in the relevant art would understand "tubular advancing station" to connote structure. Unlike the modifying words in *Greenberg* and *Lighting World*, the modifying words "tubular advancing" do not have dictionary definitions or other definitions illuminating whether one of ordinary skill in the relevant art would understand "tubular advancing station" to denote structure. Transocean argues that a skilled person, such as a worker on an offshore oil rig or drilling ship, would

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[9] Stena cited *Bemis Manufacturing Co. v. Dornoch Medical Systems*, No. 98-cv-952, 2000 U.S. Dist. LEXIS 21768 (E.D. Wis. Aug. 30, 2000), for the proposition that "station" fails to sufficiently denote structure. In *Bemis*, the issue was whether the term, "a cleaning station for . . . automatically draining and cleaning said suction canister after said suction port is disconnected from the vacuum source and said patient port is disconnected from the patient," was in means-plus-function form. The district court held that it was. *Id.* at *24. The decision's usefulness in the present case is limited due to the fact that the court did not explain why it concluded that "cleaning station" failed to denote sufficient structure. The court did not analyze the disputed term, either on its own or in light of the case law, dictionary definitions, and prosecution history.

nonetheless know that "tubular advancing station" is the collection of equipment needed to perform the task or the place on the rig where the equipment needed to advance the tubular members is housed. The court has not found in the record an industry dictionary, treatise, inventor testimony, rigworker testimony, or other evidence that the meaning of "tubular advancing station" is understood in the relevant art to denote structure. *Cf. Welker Bearing*, 550 F.3d at 1096–97 (stating that the "court's analysis may well have turned out differently" had the "artisan . . . understood [the claim] language to include a structural component").

Transocean analogized "tubular advancing station" to a "fire station," emphasizing that fire stations are generally understood to connote structure. (*See* Docket Entry No. 91 at 122–23). Transocean is correct, but that is because a fire station is among the places established for certain public services, like a police station. Merriam-Webster defines a fire station as "a building housing fire apparatus and usually firefighters." MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY 471. A building, of course, denotes structure. Transocean argues that a place of assembled equipment needed to perform a certain function denotes structure because structure is necessary to house that equipment and the space for operating it. (*See* Docket Entry No. 78 at 9–10; Docket Entry No. 91 at 128–29). Transocean does not cite a case holding where the equipment needed for a certain task or operation is located or kept sufficiently denotes structure. (*See* Docket Entry No. 91 at 128–29).[10]

The court concludes, however, that even if the three-word term "tubular advancing station" may not sufficiently denote structure, when those words are viewed in light of the entire disputed term, one of ordinary skill in the relevant art would understand the term to denote

[10] Transocean points to a claim for a first and second "top drive station" in the '781 Patent as evidence that "station" denotes sufficient structure. *See* '781 Patent, 14:56–57. But the modifier "top drive" refers to a specific type of equipment that by itself denotes structure to a person of ordinary skill in the oil-exploration industry. *See Schlumberger Oilfield Glossary*, www.glossary.oilfield.slb.com/en/Terms/t/ top_drive.aspx (defining "top drive"). Transocean's analogy to a top drive station is unpersuasive.

structure. The full term is "tubular advancing station connected to said drilling superstructure for advancing tubular members." '069 Patent, 17:23–24. The fact that the term limits "tubular advancing station" to one that is "*connected to said drilling superstructure*" does denote structure, not merely location. The "tubular advancing station" does not refer to the location for the equipment needed for the function of advancing without denoting structure. That location described in the claim must not only contain the equipment and the necessary work space to access and operate it, but it must also be *connected to* the drilling superstructure. The court tentatively concludes that a "tubular advancing station" connected to the drilling superstructure sufficiently denotes structure to maintain the presumption against means-plus-function claiming. When viewed in light of the strong presumption against applying § 112 ¶ 6 when the patentee omits the words "means for," *see Lighting World*, 382 F.3d at 1358, there is insufficient evidence that the presumption has been rebutted. The claim is not in means-plus-function form.

Stena's position that the claim invoked § 112 ¶ 6 is not without support. The patent language and prosecution histories provide some support that the disputed term is properly construed as in means-plus-function form. Claim 17 of the '069 Patent claims:

> a first tubular advancing station connected to said drilling superstructure for advancing tubular members . . . [and] a second tubular advancing station connected to said drilling superstructure for advancing tubular members simultaneously with said first tubular advancing station to the seabed . . . .

'069 Patent, 17:22–29. Claim 38 of the '071 Patent contains nearly identical language, but uses "tubular advancing station" interchangeably with "means for advancing tubular members." The relevant claim language is:

> a first tubular advancing station connected to said interconnected drilling superstructure for advancing tubular members . . . and a second tubular advancing station connected to said interconnected

> drilling superstructure for advancing tubular members simultaneously with said *means for advancing tubular members* . . . [which] can be simultaneously conducted . . . by said *second means for advancing tubular members.*

'071 Patent, 20:11–26 (emphasis added). Both claims are about the same function—advancing tubular members—and use the terms "tubular advancing station" and "means for advancing tubular members" interchangeably. This supports an inference that "tubular advancing station" is a proxy for the term "means for."

The prosecution history of the '851 Patent also provides some evidence that the patentees intended to use "tubular advancing station" and "means for" interchangeably. If, during the prosecution history, a patentee interchangeably uses "means" with another term, that is a factor in determining whether a means-plus-function construction applies to that term. *See Lighting World*, 382 F.3d at 1362–63; *Mas-Hamilton Grp. v. LaGard, Inc.*, 21 F. Supp. 2d 700, 724 (E.D. Ky. 1997), *aff'd*, 156 F.3d 1206 (Fed. Cir. 1998). The prosecution history was important to the *Lighting World* and *Mas-Hamilton* courts in analyzing whether the disputed claim terms were in means-plus-function form. The *Lighting World* court distinguished the prosecution history of the patent at issue with that in *Mas-Hamilton*. *See Lighting World*, 382 F.3d at 1362. In *Mas-Hamilton*, the fact that the patentee had used the disputed claim term "element" interchangeably with "means" was significant in concluding that § 112 ¶ 6 applied despite the absence of "means for" language. The interchangeable use militated in favor of finding that "element" and "member" "were mere proxies for the term 'means for.'" *Lighting World*, 382 F.3d at 1362 (examining *Mas-Hamilton*). The interchangeable use overcame the "presumption flowing from the absence of the term 'means for.'" *Id.* at 1358, 1363. The absence of such interchangeable use in the *Lighting World* patent's prosecution history led the court to maintain the presumption against applying § 112 ¶ 6. *Id.* at 1363.

Similar to the patentees' use of the term "element" in *Mas-Hamilton*, the patentees here appear to have used the term "station" interchangeably with "means" during the patent prosecution. In the May 1997 examiner's interview about the '851 Patent's prosecution, the interviewer stated that certain claims would "define over" the prior art if they were "amended to specify the simultaneous advancement of tubular members *by first and second means*." (Docket Entry No. 74, Ex. 5 at STE 896) (emphasis added). The same claims were amended in July 1997, but the patentees used the term "tubular station," not "means," providing some evidence that they used "station" interchangeably with "means." (*Id*, Ex. 5 at STE 903–904). Transocean maintains that such use of the terms was "strategic." (Docket Entry No. 78 at 10). It is unclear why Transocean's explanation, without further evidence, is a basis to disregard or discount this apparent interchangeable use of the terms.

The court tentatively concludes that this use, with Stena's other evidence, is insufficient to rebut the strong presumption that claims not using the words "means" or "means for" are not in means-plus-function form. *See Lighting World*, 382 F.3d at 1358. The claim language stating that the "tubular advancing station" is "connected to said drilling superstructure" denotes sufficient structure to avoid invoking § 112 ¶ 6.

The court's tentative ruling on the construction of the disputed terms is as follows:

Disputed Term	Court's Construction
"tubular advancing station connected to said drilling superstructure for advancing tubular members"	"an assembly of equipment for advancing tubular members to the seabed"

This claim construction ruling is tentative. The parties may file a response, of no more than ten pages each, limited to this point, no later than **Friday, November 14, 2014**.

C. "Means . . . for transferring tubular assemblies."[11]

Transocean's Proposed Construction	Stena's Proposed Construction
A means-plus-function term governed by § 112 ¶ 6. Function: transferring tubular assemblies directly between advancing stations or indirectly through a setback envelope. Structure: overhead derrick crane, rail supported pipe handlers, or equivalent structure.	A means-plus-function term governed by § 112 ¶ 6. Function: transferring tubular assemblies on or over the drill floor level directly between a first top drive station [means for advancing] and a second top drive station [means for advancing]. Structure: Overhead derrick cranes or rail supported pipe handlers within the derrick.

The parties dispute the construction of "means . . . for transferring tubular assemblies" in claim 10 of the '851 Patent and claims 10 and 30 of the '781 Patent. The parties agree that the term is a means-plus-function claim governed by § 112 ¶ 6. They also agree that the function is to transfer tubular assemblies between advancing stations and that the structures corresponding to the function include rail-supported pipe handlers and overhead cranes. (*See* Docket Entry No. 82–1 at 2–3). The parties disagree on two points. The first is whether the function is limited to "direct" transfers between the two assemblies, as Stena contends, or whether the function covers indirect transfers in which the tubular assemblies are moved from one station to another through an intermediate storage area called a "setback envelope," as Transocean contends. The second dispute is whether the tubular-assembly transfers are limited to those occurring "on or above the

[11] To the extent Transocean asks the court to construe "transfer" as a stand-alone term, the court declines. The substance of the parties' disputes does not appear to be over the word "transfer," but rather the claims in which "transfer" appears, for example, "means . . . for transferring tubular assemblies." This approach appears to be consistent with the parties' communications relating to the claim-construction briefs. (Docket Entry No. 74, Ex. 32 (emails between counsel in which Stena proposed not asking the court to construe "transfer" as a stand-alone term, to which Transocean agreed). Whether the court construed "transfer" as a stand-alone term would not change the construction.

drill floor level," as Stena contends, or whether they extend to transfers that are not so limited, as Transocean contends.

1. Whether the Claim Covers Indirect Transfers

The claim language and specification support Transocean's construction that "means . . . for transferring tubular assemblies" covers indirect transfers of tubular assemblies through the intermediate-storage setback envelopes. The claims recite a transfer of tubular assemblies between the "first means for advancing tubular members" and the "second means for advancing tubular members." '851 Patent, 14:35–37. The claim language identifies the starting point and ending point of the tubular assemblies' path—the first and second means for advancing tubular members—but does not describe what happens in between. The claims do not limit the transfer to a direct path between the beginning and ending points. Because "claims are generally given their broadest possible scope," *In re Rambus Inc.*, 694 F.3d 42, 46 (Fed. Cir. 2012), the claim language supports Transocean's construction that "transfer" in the disputed claims is not limited to direct transfers.

The specification in the '851 Patent supports Transocean's construction that the transfer may be indirect as well as direct. The specification describes indirect transfers of tubular members through the storage areas. The specification describes the process of "making up" different members, placing them in setback envelopes, and, when needed, transferring them from setback envelopes to the drill station. The description is as follows:

> The main drilling station 160 is utilized to pick up and make up a thirty inch jetting assembly for jetting into the seabed and twenty six inch drilling assemblies *and places them within the derrick setback envelopes* for the auxiliary station 162 to run inside of thirty inch casing. The main rig then proceeds to makeup eighteen and three fourths inch wellhead and *stands it back in the derrick* for the twenty inch tubular casing run.

‘851 Patent, 8:41–48 (emphasis added). Other parts of the specification mention indirect transfers in which the tubular assemblies are stored in setback envelopes. ‘851 Patent, 7:28–29 (describing how each tubular handling assembly or pipe handling apparatus may “setback and receive conduit from any of the tubular setback envelopes 170, 172, and 174”); *id.* at 9:8–62 (describing an auxiliary rotary station making up various sizes of tubular members, which are stored in the setback envelopes or “derrick tubular handling envelopes” until they are transferred and advanced by the main station); *id.* at 12:13–18 (describing handling assemblies to transfer tubulars between tubular advancing stations and setback envelopes). The ‘781 Patent similarly mentions indirect transfers. *See, e.g.*, ‘781 Patent, 7:41–43 (“[T]he rail 168 permits the first tubular handling assembly 164 to setback and receive conduit from any of the tubular setback envelopes . . . .”).

A timeline in the specification describing the drilling process further supports construing the term “means . . . for transferring tubular assemblies” to include indirect transfers. Figure 23b of the ‘851 and ‘781 Patents is a “time line for an illustrative exploratory drilling operation wherein a critical path of activity for a conventional drilling operation is depicted.” ‘851 Patent, 4:34–37; ‘781 Patent, 4:45–47. The timeline shows that the tubulars are first made up, then stored in setback envelopes, and later moved to the drill station for drilling and advancement towards the seabed. This timeline does not describe a process in which the tubular members are transferred only directly from the first means for advancing to the second means for advancing.

Stena’s proposed construction limiting tubular-member transfers to direct transfers contradicts the specification and the need to read a claim “in view of the specification, of which they are a part.” *Markman*, 52 F.3d at 979. The specification is not only “highly relevant,” but “[u]sually, it is dispositive; it is the single best guide to the meaning of a disputed term.”

Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996). Stena's construction also fails to justify construing the claim to exclude the preferred embodiment, a construction that "'is rarely, if ever, correct.'" *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1342 (Fed. Cir. 2001) (quoting *Vitronics*, 90 F.3d at 1583). Stena does not dispute that the preferred embodiments of the Transocean patents include indirect transfers. The specification provides persuasive intrinsic evidence supporting Transocean's construction.

Stena contends that indirect transfers through and including setback envelopes are not included in the "means . . . for transferring" because the envelopes, which are necessary for indirect transfer, are referred to in the dependent claims, not in the independent claims the court is asked to construe. (Docket Entry No. 74 at 25–28). Claim 10 of the '851 Patent—the independent claim—recites a "means . . . for transferring tubular assemblies." '851 Patent, 14:32–44. Claim 11—the dependent claim—recites:

> "A multi-activity drilling assembly as defined in claim 10 and further including: a first tubular setback station positioned adjacent to said first means for advancing tubular members; and a second tubular setback station . . . . ."

Id. at 14:45–51. Similarly, in the '781 Patent, the setback envelopes are mentioned in dependent claims 12 and 13, but not in independent claims 10 and 30. Stena argues that because the setback envelopes were first introduced in the dependent claims and preceded by the phrase "further including," the envelopes (and the indirect transfers they implicate) cannot also be covered by the independent claims. Stena reasons that "[b]ecause the setback envelopes, which are necessary for indirect transfer, are claimed only as additional elements to the independent claims introducing the means 'means . . . for transferring tubular assemblies,' direct transfer and

indirect transfer are distinct from one another." (Docket Entry No. 74 at 25 (emphasis removed)).

Stena's position is inconsistent with the claim-construction principle that "dependent claims are presumed to be of narrower scope than the independent claims from which they depend." *AK Steel Corp. v. Sollac & Ugine*, 344 F.3d 1234, 1242 (Fed. Cir. 2003); *see also RF Del., Inc. v. Pac. Keystone Techs., Inc.*, 326 F.3d 1255, 1264 (Fed. Cir. 2003) (stating that an independent claim is usually construed to have a greater scope than its dependent claims); *cf.* 35 U.S.C. § 112, ¶ 4 (2000) ("[A] claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers."). Under Stena's proposed construction, the independent claims, which would provide for indirect transfers, would be broader than the independent claims, violating the presumption that independent claims are broader than dependent claims. *See AK Steel Corp.*, 344 F.3d at 1242.

The dependent claims' use of "further limiting" does not undercut this conclusion or make the dependent claims superfluous, as Stena contends. The independent claims describe a general means for transferring tubular assemblies between the advancing stations. The independent claims do not limit transfers to direct or indirect. Consistent with the principle that dependent claims are narrower than the independent claims, the dependent claims in the Transocean patents further limit the independent claims by denoting the structure and location for the structure used to facilitate the transfers, which provide for indirect transfers through setback envelopes positioned adjacent to the top-drive stations. Stena has not cited a case in

which a court has found that dependent claims containing the language "further including" are broader than the independent claims.[12]

The court construes the term "means . . . for transferring tubular assemblies" to include indirect transfers.

2. Whether the Claims Provide for Transfers Below the Drill Floor

Stena argues that the claims cover only transfers that occur on or above the drill floor. Transocean agrees with Stena that the tubular assemblies' transfer must start and end at the tubular advancing stations above the drill floor, but disputes whether the entire transfer path must be on or above the drill floor. (Docket Entry No. 78 at 14 ("While Transocean agrees that any transfer must start and end at the stations on the drill floor, nothing in the specification limits the path taken by a transferred tubular to completely above the drill floor.")). Transocean emphasizes that no language in the claims or specification limits the transfers to those occurring on or above the drill floor. Stena does not point to claim or specification language expressly excluding transfer paths that are partially below the drill floor. Stena instead argues that the court should read this limit into the claims because "the specification only discloses transferring above the drill floor." (Docket Entry No. 74 at 24) (emphasis removed). Stena emphasizes that Figure 7 of the '851 Patent shows the equipment mentioned in the specification corresponding to the function of transferring tubular assemblies — rail-supported pipe handlers and overhead cranes — as on the drill floor. *See* '851 Patent, Figure 7. Stena draws from this figure the basis

[12] Stena argues that the setback envelopes are additional structure for the "multi-activity drilling assembly" and "not the structure already found in the 'means for transferring.'" (Docket Entry No. 74 at 27). But the setback envelopes do appear to refer to the "means for transferring." The independent claim describes a "drilling assembly including" a "means . . . for transferring tubular assemblies." '781 Patent, 14:33, 55–56. The references to setback envelopes in the dependent claims relate to the drilling assembly's "means for transferring."

for reading the specification to mean that Transocean has restricted transfers to those taking place entirely on or above the drill floor.

Figure 7 is the only support in the specification for Stena's argument that tubular assemblies must be transferred entirely on or above the drill floor. Stena's attempt to restrict the scope of the claim based on the location of the equipment in the figure is unpersuasive. There is no claim language limiting the transfers to those entirely on or above the drill floor. The Federal Circuit is clear that while "claims must be read in view of the specification . . . limitations from the specification are not to be read into the claims." *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1326 (Fed. Cir. 2002). The fact that this is a means-plus-function claim does not change the analysis or result. *Cf. Rodime PLC v. Seagate Tech., Inc.*, 174 F.3d 1294, 1303 (Fed. Cir. 1999) (reversing a district court decision reading limitations from the specification into a means-plus-function claim).

The parties focused their arguments on whether the inventors disclaimed below-the-drill floor transfers during patent prosecution. Stena argues vigorously and primarily that Transocean is estopped by positions it took in the prosecution from arguing that the claimed transfers can be partially below the drill floor. Stena emphasizes the inventors' statements, including testimony and declarations in prior patent-infringement trials, describing the inventions as limited to transfers on or above the drill floor. (Docket Entry No. 74 at 29–33). Transocean argues that Stena has inaccurately described the prosecution history and the context of the prior statements. (Docket Entry No. 78 at 14–17).

During the patent prosecution, questions were raised about prior art, specifically, the Maritime Hydraulics Twin RamRig. The patent office had initially rejected multiple claims in Transocean's patents on the basis of prior-art anticipation. The RamRig's sales brochure showed

"tubular racks for the various pipes used for drilling" and "pipe handling assemblies allow[ing] for transfer of pipes from one advancing means to the other." (Docket Entry No. 66, Ex. 12 at 3). After the patent examiner rejected Transocean's claims, one of the named inventors, Donald Ray, and prosecution counsel, Bradford Kyle, met with the examiner about the RamRig reference. The "Examiner Interview Summary Record" states, in part, that:

> The distinction that applicant's drillship allows for transfer of tubular members between first and second drilling assemblies was agreed to define over the . . . Maritime Hydraulics brochure.

(Docket Entry No. 74, Ex. 5 at STE919). After the interview, the claims were amended to include a limit to a "means positioned within said derrick for transferring tubular assemblies." (*See, e.g., id.*, Ex. 5 at STE 921).

Transocean argues that the examiner initially rejected the invention on the erroneous belief that the Maritime Hydraulics Twin RamRig had disclosed pipe-handling assemblies that could transfer pipes between advancing means. According to Transocean, the RamRig brochure did not disclose transferring equipment. Transocean cites to a 1999 declaration from the inventors of the Transocean patents stating that the RamRig "does not incorporate a principal aspect of the [Transocean] invention in that there is no method shown for transferring tubular members between the rotary tables." (Docket Entry No. 78, Ex. 25 ¶ 4). Transocean also relies on the deposition of Vidar Skjelbred, a Maritime Hydraulics employee familiar with the RamRig design. Skjelbred testified that the RamRig brochure did not identify or describe equipment capable of transferring the large conductor pipe — up to 30 inches in diameter — above the drill floor. (*Id.*, Ex. 28 at 121–22). Instead, the pipe transfer shown in the RamRig brochure occurred exclusively below the drill floor. (*Id.*, Ex. 28 at 122).

Stena's argument that the inventors disclaimed transfers below the drill floor is based on its interpretation of the "Examiner Interview Summary Record" excerpt. Stena contends that it is clear from the examiner's statement and the subsequent amendments that the patentees disclaimed below-the-drill-floor transfers. To support this argument, Stena relies heavily on inventor Ray's testimony in a lawsuit Transocean filed against GlobalSantaFe Corporation for infringing the same patents at issue in this case.

In this earlier lawsuit, Ray testified that:

- he interpreted the excerpt from the "Examiner Interview Summary Record" to mean that Transocean's "invention has the capability to transfer the tubulars between the two workstations at the drill floor," (Docket Entry No. 74, Ex. 10 at 195–96);

- the phrase, "transfer of tubular members between first and second drilling assemblies" means transfer "between the two rotary tables on the drill floor," and the transfer must "take place on the drill floor in the derrick," (*id.*, Ex. 10 at 268);

- during the interview with the examiner, he showed the "transfer of tubulars at the drill floor" to explain the Transocean invention in comparison to the Maritime Hydraulics brochure, (*id.*, Ex. 10 at 265); and

- the discussion with the patent examiner "was about transferability above the drill floor," (*id.*, Ex. 10 at 228).

Inventor Robert Scott testified similarly in a deposition taken in a suit Transocean filed against Maersk Contractors USA, again asserting infringement of the patents at issue here. In his deposition, Scott stated that the Transocean patents were distinguishable because the RamRig transferred the tubulars below the drill floor. Scott stated that "what was new [with the Transocean patents] was transfer above the drill floor." (*Id.*, Ex. 35 at 245–46).[13]

[13] Stena cites other trial and deposition testimony making similar points. (*See* Docket Entry No. 74 at 32–33). For brevity, the court omits citations to all those excerpts but notes that they are in the record and that the court is aware of them and has considered them.

Stena's reliance on these statements is problematic because inventor testimony "cannot be relied on to change the meaning of the claims." *Markman*, 52 F.3d at 983; *see also Hoechst Celanese Corp. v. BP Chems. Ltd.*, 78 F.3d 1575, 1580 (Fed. Cir. 1996) ("*Markman* requires us to give no deference to the testimony of the inventor about the meaning of the claims."). Courts recognize that "it is not unusual for there to be a significant difference between what an inventor thinks his patented invention is and what the ultimate scope of the claims is after allowance by the PTO." *Howmedica Osteonics Corp. v. Wright Med. Tech., Inc.*, 540 F.3d 1337, 1347 (Fed. Cir. 2008) (internal quotations omitted). This is true even when the inventor testimony narrows the claim scope. *Id.*

Stena argues that this principle is inapplicable because in this case, the inventors' statements are about proceedings before the PTO and are therefore part of the intrinsic record. (*See* Docket Entry No. 74 at 30 n.23). Even taking this into account, the inventors' testimony does not lead to the construction Stena advocates.

To show that Transocean disclaimed transfers below the drill floor, Stena must show that Transocean's conduct during the patent prosecution "constitute[d] a clear and unmistakable surrender" of any transfer path below the drill floor. *See Cordis Corp. v. Medtronic AVE, Inc.*, 339 F.3d 1352, 1359 (Fed. Cir. 2003). In *Cordis*, the court held that an inventor did not clearly and unmistakably disclaim the disputed claim scope when the inventor's statement made in the prosecution history, after the examiner had initially rejected the patent, was "amenable to multiple reasonable interpretations." *Id.*

The inventor statements Stena points to are "amenable to multiple reasonable interpretations." *Id*. The inventors' statements about above-the-drill-floor transfers were in response to questions about the specific differences between the transfer paths in the Transocean

patents and in the RamRig prior art. Transocean's position that the inventors distinguished the Transocean patents from the RamRig on the ground that the transfer in the Transocean patents started and ended at a point above the drill floor is a reasonable interpretation of how the inventors distinguished the RamRig.[14] Though the examiner's handwritten summary is not particularly helpful in explaining why he changed his position, it is reasonable to infer that he distinguished the Transocean inventions from the RamRig on the ground that the transfer in the Transocean patents begins and ends on or above the drill floor. It is reasonable to interpret the Transocean inventor statements to the PTO and in later testimony as saying that at least part (the beginning and ending) of the tubular-assembly transfer occurs on or above the drill floor, as opposed to saying that no part of the transfer could occur below the floor. Stena has not shown that Transocean clearly and unmistakably surrendered a transfer path that, at some point, is below the drill floor.

[14] The record evidence is clear that the transfer of the casing pipe in the Maritime Hydraulics RamRig brochure occurred *exclusively* below the drill floor. The deposition testimony of Vidar Skjelbred confirmed this point; he testified that the RamRig did not have equipment capable of transferring above the drill floor the casing pipe that the brochure pictured. (Docket Entry No. 78, Ex. 28 at 121–22).

The court's ruling on the construction of the disputed claims is as follows.

Disputed Term	Court's Construction
"means . . . for transferring tubular assemblies"	A means-plus-function governed by § 112 ¶ 6. Function: transferring tubular assemblies directly between advancing stations or indirectly through a setback envelope. Structure: overhead derrick cranes, rail supported pipe handlers, or equivalent structure.[15]

[15] Stena disputes whether the structures corresponding to the function include not only rail supported pipe handlers and overhead cranes, but also "equivalent structures." Stena cites an unpublished case from the Western District of Wisconsin for the proposition that the "equivalents thereof" are not part of the structures corresponding to the function. (Docket Entry No. 74 at 33–34 (citing *LG Elecs., Inc. v. Quanta Computer Inc.*, No. 07-cv-361, 2008 WL 4613054, at *3 (W.D. Wis. Mar. 4, 2008)). In *Quanta Computer*, the court declined to include "and equivalents thereof" in the construction for the structure of a means-plus-function term on the ground that "§ 112 makes it clear that the 'equivalents' of the structures disclosed in the specification are included" and because "including 'equivalents' in a construction conflates the issue of claim construction with an infringement analysis under the doctrine of equivalents." *Id.*

Stena's argument appears contrary to § 112 ¶ 6, which uses the conjunctive "and" in stating that the "claim shall be construed to cover the corresponding structure . . . described in the specification and equivalents thereof." S*ee NOMOS Corp. v. BrainLab USA, Inc.*, 357 F.3d 1364, 1368 (Fed. Cir. 2004) (defining the means-plus-function's structure to include "equivalents"). The court need not resolve this issue, however, because whether "equivalents thereof" are part of the actual claim or are considered under the doctrine of equivalents does not affect the infringement analysis.

D. Additional Tubular Transferring Terms: "assembly . . . operable to transfer tubular assemblies" and a "tubular handling system for transferring tubular assemblies between said first tubular setback envelope and said second tubular setback envelope and said first top drive station and said second top drive station."

Transocean's Proposed Construction	Stena's Proposed Construction
Pipe handling equipment for transporting tubular members, such as overhead derrick cranes or rail supported handlers.	A means-plus-function claim governed by § 112 ¶ 6. Function: transferring tubular assemblies on or above the drill floor level directly between a first tubular advancing station and a second tubular advancing station.[16] Structure: Overhead derrick cranes or rail supported pipe handlers within the derrick

The parties dispute the construction of two separate but related claims relating to tubular transfers. The first, an "assembly . . . operable to transfer tubular assemblies," appears in claim 17 of the '069 Patent. The second, a "tubular handling system for transferring tubular assemblies between said first tubular setback envelope and said second tubular setback envelope and said first top drive station and said second top drive station," appears in claim 13 of the '781 Patent. The principal issue is whether the terms are in means-plus-function form. The parties' arguments incorporate the sections of their briefs addressing whether a "tubular advancing station connected to said drilling superstructure for advancing tubular members" was in means-

[16] Stena's proposed construction for the function of "tubular handling system for transferring tubular assemblies" is slightly different from its proposed construction for "assembly . . . operable to transfer tubular assemblies." Stena's proposed construction for "tubular handling system" includes references to setback envelopes while its construction for "assembly . . . operable to transfer tubular assemblies" does not. Stena's construction of the structure corresponding to the "tubular handling system" is limited to structures "mounted on the drill floor." (Docket Entry No. 81–1 at 11). The distinctions between Stena's constructions for the two terms are without a difference in light of the court's conclusion that the Transocean patents do not disclaim transfers occurring partially below the drill floor.

plus-function form. Given the similarities between an "assembly . . . operable to transfer tubular members" and a "tubular handling system for transferring tubular assemblies" and the fact that they are analyzed under the same legal framework, the court discusses the terms together. The court's construction of both terms is—tentatively—that the terms are in means-plus-function form. Like the court's ruling on "tubular advancing station . . . for advancing tubular members," this is a tentative ruling. The parties may address the construction of these terms in their ten-page reactions to the court's construction of "tubular advancing station . . . for advancing tubular members," due no later than **Friday, November 14, 2014**.

1. "assembly . . . operable to transfer tubular assemblies."

Stena asserts that the disputed claim term, "assembly . . . operable to transfer tubular assemblies," is properly construed as a means-plus-function limitation subject to § 112 ¶ 6. This claim is similar to the claim addressed in the previous section, a "means . . . for transferring tubular assemblies." Both claims relate to transferring tubular assemblies between the advancing stations. The parties agreed that the claim term "means . . . for transferring tubular assemblies" was in means-plus-function form. The material difference between "means . . . for transferring tubular assemblies," and an "assembly . . . operable to transfer tubular assemblies" is the absence of the word "means" in the second. Because the "assembly . . . operable to transfer tubular assemblies" claim does not use "means" or "means for," the presumption that the claim is not in mean-plus-function form applies. *See CCS Fitness Inc.*, 288 F.3d at 1369. Transocean argues that Stena cannot overcome the presumption, contending that one of skill in the relevant art would understand an "assembly . . . operable to transfer tubular assemblies" to denote structure. This court tentatively finds that it does not.

Transocean argues that "assembly . . . operable to transfer tubular assemblies" connotes structure because the word "assembly" is a noun. (Docket Entry No. 66 at 15 ("Stena cannot rebut the presumption because the specification uses . . . nouns to identify structure used to move tubular assemblies.")). "Assembly" is a noun, but just because a word is a noun does not mean that it denotes structure. The Federal Circuit has stated that nouns such as "mechanism," "element," "device," and "system" are generic words that do not by themselves denote structure. *See MIT*, 462 F.3d at 1354 ("The generic terms 'mechanism,' 'means,' 'element,' and 'device,' typically do not connote sufficiently definite structure."). The Federal Circuit in *Lighting World* implied that the noun "assembly" does not denote structure. The court explained in detail why an "assembly," when modified by the word "connector," denoted structure. *Lighting* World, 382 F.3d at 1361–62. The Federal Circuit's lengthy explanation of the effect the modifier "connector" had on "assembly" would have been unnecessary had the word "assembly" standing alone denoted structure. The disputed claim "assembly . . . operable to transfer tubular assemblies" has no language modifying "assembly" in the way that "assembly" was modified in *Lighting World*. One of skill in the relevant art "would have no recourse but to turn to the . . . specification to derive a structural connotation for" the term "assembly . . . operable to transfer tubular assemblies." *See Welker Bearing*, 550 F.3d at 1096. Stena has carried its burden of showing that the term fails to denote structure, rebutting the presumption against means-plus-function form.

Transocean cites *Stryker Corp. v. Zimmer, Inc.*, No. 10-cv-1223, 2012 WL 333814 (W.D. Mich. Feb. 1, 2012), in arguing that the word "assembly" alone denotes sufficient structure to avoid invoking § 112 ¶ 6. The *Stryker* court ruled that claim terms using the word "assembly" were not in means-plus-function form. But in *Stryker*, the word "assembly" did not stand alone

as it does in the present case. The *Stryker* court construed "lock assembly," "control assembly," and "switch assembly," *see id.* at *6–14. In these terms, the word "assembly" was modified with other language, similar to the way "connector" modified "assembly" in *Lighting World*. By contrast, an "assembly . . . operable to transfer tubular assemblies" is not modified by language connoting structure.

Transocean also argues that the specification and prior art cited during the prosecution history use the term "assembly" to refer to structure. (Docket Entry No. 78 at 19). Transocean cites such terms as tripod assemblies, rotary assemblies, support assemblies, and jacking assemblies. (*Id.*). Transocean's citation to those terms is unpersuasive because those terms, like the disputed terms in *Lighting World* and *Stryker*, modified the word "assembly" with other language possibly connoting structure. There is no such modifying language in the term "assembly . . . operable to transfer tubular assemblies."

Stena has carried its burden of showing that the claim term fails to denote structure. This claim is distinguishable from the claim "tubular advancing station connected to said drilling superstructure for advancing tubular members," which this court tentatively ruled was not in means-plus-function form. In the "tubular advancing station" claim, the "station" was "connected to said drilling superstructure." As this court noted, the fact that the tubular advancing station was connected to the drilling superstructure, in combination with other language, sufficiently denoted structure. In the claim "assembly . . . operable to transfer tubular assemblies," there is no language stating that the "assembly" is attached to the drilling superstructure.

The court construes the claim "assembly . . . operable to transfer tubular assemblies" to be in means-plus-function form. Because "assembly . . . operable to transfer tubular

assemblies," invokes § 112 ¶ 6, the court must identify the "function" associated with the claim language and corresponding structure in the specification associated with that function. 35 U.S.C. § 112 ¶ 6; *Welker Bearing*, 550 F.3d at 1097. It is undisputed that the function is to transfer tubular assemblies. Stena argues that the transfer is limited to direct transfers above the drill floor, repeating the arguments it made in the section addressing the "means . . . for transferring tubular assemblies." (*See* Docket Entry No. 74 at 36). For the reasons stated earlier, the court rejects Stena's argument that the claim is limited to direct transfers above the drill floor. The structure corresponding to the function includes overhead derrick cranes, rail-supported pipe handlers, and equivalent structure.

2. "Tubular handling system for transferring tubular assemblies between said first tubular setback envelope and said second tubular setback envelope and said first top drive station and said second top drive station."

The parties' arguments for the disputed claim term "tubular handling system for transferring tubular assemblies" mirror those asserted in the briefs on the claim term "assembly . . . operable to transfer tubular assemblies." This absence of "means" or "means for" triggers the presumption that the claim is not in mean-plus-function form. *See CCS Fitness Inc.*, 288 F.3d at 1369.

The word "system" by itself does not sufficiently denote structure to avoid § 112 ¶ 6. The dictionary defines "system" as "a regularly interacting or interdependent group of items forming a unified whole." *System*, def. 1, MERRIAM-WEBSTER, http://www.merriam-webster.com/ dictionary/ system (last visited September 3, 2013). "System" is thus similar to such generic terms as "'mechanism,' 'means,' 'element,' and 'device,' [that] typically do not connote sufficiently definite structure." *See MIT*, 462 F.3d at 1354. At least one other court has concluded that "system" is a generic term that fails to denote sufficient structure to avoid

invoking 112 ¶ 6. *Auto. Techs. Int'l, Inc. v. Delphi Corp.*, No. 08-cv-11048, 2009 WL 2960698, at *13 (E.D. Mich. Sept. 11, 2009).

The modifying words "tubular handling" do not further define the generic term "station" to add sufficient structure to avoid means-plus-function form. The record discloses no industry treatise or testimony from one skilled in the relevant art that a "tubular handling system" is understood to denote structure. The claim term "tubular handling system for transferring tubular assemblies" is in means-plus-function form.

The "tubular handling system for transferring tubular assemblies" is distinguishable from the term "tubular advancing station connected to said drilling superstructure for advancing tubular members," which this court tentatively concluded was not in means-plus-function form, because the "tubular advancing station" term included the language "connected to said drilling superstructure." As noted above, the language "connected to said drilling superstructure," in context, denoted structure. If the "tubular advancing station" was merely a location, as Stena argued, "connected to" the drilling superstructure is superfluous verbiage. The term construed here, "tubular handling system," lacks such language connoting structure.

Transocean also argues that the "tubular handling system" term denotes structure because claim 13 (in which "tubular handling system" appears) is the dependent claim of claim 10 and "adds additional structure" to the "means for transferring tubular assemblies" of claim 10 such that it "remov[es] the tubular handling system from the confines of Section 112 ¶ 6." (Docket Entry No. 66 at 15). This argument presupposes that "tubular handling system" does add additional structure. For the reasons stated above, the claim term "tubular handling system" fails to denote sufficient structure and therefore does not "add[] additional structure."

The court tentatively rules that the claim term "tubular handling system for transferring tubular assemblies between said first tubular setback envelope and said second tubular setback envelope and said first top drive station and said second top drive station" is in means-plus-function form. The function and the function's corresponding structure mirror the function and structure for the term "assembly . . . operable to transfer tubular assemblies."

The court's tentative ruling on the construction of the disputed terms is as follows:

Disputed Term	Court's Construction
"assembly . . . operable to transfer tubular assemblies" "tubular handling system for transferring tubular assemblies between said first tubular setback envelope and said second tubular setback envelope and said first top drive station and said second top drive station"	A means-plus-function governed by § 112 ¶ 6. Function: transferring tubular assemblies directly between advancing stations or indirectly through a setback envelope. Structure: overhead derrick cranes, rail supported pipe handlers, or equivalent structure.

The parties may address this tentative construction in their ten-page reactions to the court's construction of "tubular advancing station . . . for advancing tubular members," due no later than **Friday, November 14, 2014**.

E. "A Well" and "the Well"

Transocean's Proposed Construction	Stena's Proposed Construction
Capable of performing operations on a single well	One or more wells

The parties dispute the meaning of "a well" in the '851 Patent (claim 10), the '781 Patent (claims 10, 30), the '069 Patent (claim 17), and "the well" in the '851 Patent (claim 10), the '781

Patent (claims 10, 30), and in the '069 Patent (claim 17). Transocean argues that "a well" or "the well" means "capable of performing operations on a single well"; Stena argues the terms mean "one or more wells." (Docket Entry No. 82–1 at 1).

In *Transocean v. GlobalSantaFe*, No. 4:03-2910, the court construed the same terms in the '781 Patent, '071 Patent,[17] and '069 Patent. (Docket Entry No. 66, Ex. 7 at 7). The court in that case construed not only claim 14 of the '071 Patent, but also the other disputed claims containing "a well" and "the well." Claim 14 recited a:

> multi-activity drilling assembly . . . for conducting drilling operations . . . for *a single well*, said multi-activity drilling assembly including:
>
> > an interconnected superstructure operable to be mounted upon a drilling deck for simultaneously supporting drilling operations *for a well* and operations auxiliary to drilling operations for *a well*.

'071 Patent, 15:21–29 (emphasis added). The term "the well" appeared later in the claim, referring back to "a well." *Id.* at 15:37, 40. GlobalSantaFe argued, as Transocean does now, that "a well" and "the well" were "expressly limited to . . . a single well." (Docket Entry No. 66, Ex. 7 at 7 (internal quotations marks omitted)). Transocean argued then, as Stena does now, that the term was not limited to a single well. *Id.* Transocean's position has changed to what GlobalSantaFe argued earlier, and Stena is taking the position Transocean took earlier.

In arguing in the present case that "a well" and "the well" should both be construed to mean "capable of performing operations on a single well," Transocean fails to account for the claim-construction rule that indefinite articles such as "a" or "an" mean "one or more." The Federal Circuit has repeatedly stated that, "as a general rule, the words 'a' or 'an' in a patent

[17] Transocean does not assert in this litigation that Stena infringed the '071 Patent.

claim carry the meaning of 'one or more.'" *TiVo, Inc. v. EchoStar Commc'ns Corp.*, 516 F.3d 1290, 1303 (Fed. Cir. 2008) (quoting *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342 (Fed. Cir. 2008)). This "is particularly true when those words are used in combination with the open-ended antecedent 'comprising.'"[18] *Id.* "The exceptions to this rule are extremely limited: a patentee must evince a clear intent to limit 'a' or 'an' to 'one.'" *Baldwin Graphic Sys., Inc.*, 512 F.3d at 1342 (internal quotation marks and citation omitted). "An exception to the general rule arises *only* 'where the language of the claims themselves, the specification, or the prosecution history necessitate a departure from the rule.'" *01 Communique Lab., Inc. v. LogMeIn, Inc.*, 687 F.3d 1292, 1297 (Fed. Cir. 2012) (quoting *Baldwin Graphic Sys.*, 512 F.3d at 1342–43). "The subsequent use of definite articles 'the' or 'said' in a claim to refer back to the same claim term does not change the general plural rule, but simply reinvokes that non-singular meaning." *Baldwin Graphic Sys.*, 512 F.3d at 1342.

In the *GlobalSantaFe* case, the exception applied to claim 14 of the '071 Patent because before using the terms "including," "a well," and "the well," the claim used the term "single well." The district court carefully reviewed the patent language and held that the term "single well" limited the following uses of "a well" and "the well" because they referred back to "single well." (Docket Entry No. 66, Ex. 7 at 9). The court rejected Transocean's proposed construction that "a well" and "the well" could mean "one or more wells." (*Id.*, Ex. 7 at 10).[19]

In the *Maersk* case, No. 07-cv-2392, Transocean alleged infringement of the '781, '071, '069, and '851 Patents. The parties asked the court to construe "single well," "a wellhole," and

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[18] The term "including" is synonymous with "comprising," and its use triggers the same rule. *See Nazomi Commc'ns, Inc. v. Arm Holdings, PLC*, 403 F.3d 1364, 1370 (Fed. Cir. 2005); *Mars, Inc. v. H.J. Heinz Co.*, 377 F.3d 1369, 1375 (Fed. Cir. 2004).

[19] The court applied its analysis of claim 14 of the '071 Patent to the other disputed claims, stating that claim 14 "exemplified" the other disputed claims. (Docket Entry No. 66, Ex. 7 at 8–10).

"the wellhole." (No. 07-cv-2392, Docket Entry No. 22, Ex. A at 6). Transocean argued that in the context of apparatus claims, the terms meant "capable of performing operations on a single well," and in the context of method claims, "operations on a single well." (*Id.*). Maersk argued for the limited construction Transocean advocates here, that the terms meant "all activity or structure of the claim can be conducted on only one wellhole." (*Id.*). The court ruled, without explanation, that "the apparatus must be capable of operations on 'a' well and on other auxiliary operations related to the well——that could 'include' one or more wells." (No. 08-cv-3287, Docket Entry No. 66, Ex. 8 at 22). The absence of any explanation makes this opinion unhelpful and unpersuasive.

In this case, the general rule in *Baldwin Graphic* and *TiVo* applies to the term "a well." The analysis begins with the construction that "a well" means one or more wells. In this case, unlike in *GlobalSantaFe*, nothing in the claim language or the specification "necessitate[s] a departure from the rule.'" *Baldwin Graphic Sys.*, 512 F.3d at 1343. In contrast to *GlobalSanteFe,* in which the use of the term "single well" before "a well" and "the well" meant that the same terms after the transitional phrase "including" were limited by the earlier use of "single well," there is no basis here to deviate from the usual construction rule. The term "single well" does not appear in the disputed claims. In the '851 Patent, the term "single well" does not appear once; in the '781 and '069 Patents, the term does appear, but not in the disputed claims. The fact that the limiting term, "single well," was not included in the disputed claims, but was included in other claims, is persuasive evidence that the inventors used the term "single well" to select when the claims would be limited to a single well and when they would not.

The inclusion of the term "the well" in the claims does not lead to a construction that "a well" is a single well. The term "the well" is "an anaphoric phrase that merely refers back to the

initial antecedent phrase." *Creative Internet Adver. Corp. v. YahooA, Inc.*, 476 F. App'x 724, 735 (Fed. Cir. 2011); *see also Baldwin Graphic Sys.*, 512 F.3d at 1343 ("Because the initial phrase carries no definitive numerosity, the anaphoric phrases do not alter that meaning in the slightest.").

Multiple parts of the specification support Stena's construction that "a well" and "the well" mean "one or more wells." The '851 Patent specification contemplates drilling activity in which multiple wells are worked on at the same time. *See* '851 Patent, 3:33–36 ("It is a further object of the invention to provide a novel method and apparatus for deep water field development drilling or work over remedial activity where multiple wells may be worked on simultaneously from a single derrick."); *id.* at 11:51–56 ("Developmental drilling actively may be required which would involve twenty or more wells. In this event, the subject invention can advantageously conduct multiple well developmental drilling activity, or work over activity, simultaneously on multiple wells . . . .").[20]

Transocean has not met its burden of showing that the inventors "evince[d] a clear intent to limit 'a' . . . to 'one.'" *Baldwin Graphic*, 512 F.3d at 1342. The court's ruling on the construction of the disputed claims is as follows.

Disputed Terms	Court's Construction
"a well" and "the well"	"one or more wells"

[20] These references to simultaneous drilling pertain to developmental drilling. The developmental drilling phase occurs "after exploration has proven successful, and before full-scale production." SCHLUMBERGER, *Oilfield Glossary*, www.glossary.oilfield.slb.com/en/Terms/d/development (last visited October 23, 2014).

F. "Drilling Operations" and "Drilling Operations Auxiliary to Said Drilling Operations"

Transocean's Proposed Construction	Stena's Proposed Construction
"drilling operations," "drilling activity"	
"operations required to construct a well"	Indefinite
"auxiliary drilling activity," "drilling operations auxiliary to said drilling operations," "operations auxiliary to drilling operations," "operations . . . auxiliary to said drilling operations"	
"operations removed from the critical path for drilling a well"	Indefinite

The claim term "drilling operations" is found in claim 10 of the '851 Patent, claims 10, 11, and 30 of the '781 Patent, and claim 17 of the '069 Patent. Transocean asks this court to construe "drilling operations" to have the same meaning as "drilling activity."[21] The parties also ask the court to construe the term "drilling operations auxiliary to said drilling operations," which appears in claim 10 of the '851 Patent, claim 30 of the '781 Patent, and claim 17 of the '069 Patent. Transocean argues that the terms "auxiliary drilling activity," "operations auxiliary to drilling operations," and "operations . . . auxiliary to said drilling operations" should have the same meaning as "drilling operations auxiliary to said drilling operations."[22]

Transocean argues that "drilling operations" and "drilling activity" have the same meaning because the patents use the terms interchangeably. Stena contends that Transocean offers no support for this argument. (Docket Entry No. 74 at 44). A review of the patents shows

[21] The term "drilling activity" is found in claim 10 of the '851 Patent; claims 10 and 30 of the '781 Patent; and claim 17 of the '069 Patent.

[22] The claim term "auxiliary drilling activity" appears in claim 10 of the '851 Patent; claims 10 and 30 of the '781 patent; and claim 17 of the '069 patent. The term "operations auxiliary to drilling operations" appears in claim 10 of the '851 Patent; claims 10 and 30 of the '781 Patent; and claim 17 of the '069 Patent. The term "operations . . . auxiliary to said drilling operations" appear in claims 10 and 11 of the '781 Patent.

that the terms are used interchangeably.[23] The terms "drilling operations" and "drilling activity" are construed as having the same meaning, and for simplicity, the term "drilling operations" is used to cover both. For similar reasons, the term "auxiliary drilling activity" covers "drilling operations auxiliary to said drilling operations," "operations auxiliary to drilling operations," and "operations . . . auxiliary to said drilling operations."

Stena argues that the terms "drilling operations" and "auxiliary drilling activity" are indefinite. Transocean distinguishes between "drilling operations" and "auxiliary drilling activity" by construing "drilling operations" as those on the "critical path" and "auxiliary drilling activity" as those off the critical path. Stena argues that one of ordinary skill in the art cannot differentiate which operations are on the critical path and which operations are off. (Docket Entry No. 74 at 42–48). Transocean maintains that the terms are sufficiently definite that one of ordinary skill in the relevant art would be able to objectively identify whether and when particular drilling operations are on or off the critical path. (Docket Entry No. 78 at 20–21).

1. The Applicable Law on Indefiniteness

Under 35 U.S.C. § 112, a patent specification must "conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as [the] invention." 35 U.S.C. § 112 ¶ 2. "[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform,

[23] For example, the patents use "drilling operations" and "operations auxiliary to said drilling operations" to address the same methods and apparatuses as "drilling activity" and "auxiliary drilling activity." Nothing from the claims or specification suggests that "drilling operations" and "drilling activity" have different meanings. *See, e.g.*, '069 Patent, 17:13–37 ("A multi-activity drilling assembly . . . for conducting *drilling operations* . . . 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 . . . and an assembly . . . to facilitate . . . drilling operations auxiliary to said *drilling operations*, wherein *drilling activity* can be conducted for the well from said drilling superstructure . . . and auxiliary *drilling activity* can be simultaneously conducted for the well from said drilling superstructure . . . ."") (emphasis added); '851 Patent, 3:58-51 ("simultaneously auxiliary drilling and/or related activity can be conducted within the same derrick"); 4:56–57 ("simultaneously operations auxiliary to primary tubular operations"); 6:65–66 ("operations auxiliary to drilling operations"); 3:56–57 ("operations auxiliary to the primary drilling"); 12:23–24 ("auxiliary operations can be simultaneously conducted").

with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014). In *Nautilus*, the Supreme Court stated that indefiniteness under § 112 requires a "delicate balance." *Id.* at 2129 (internal quotations omitted). "On the one hand, the definiteness requirement must take into account the inherent limitations of language. Some modicum of uncertainty, the Court has recognized, is the 'price of ensuring the appropriate incentives for innovation.'" *Id.* (internal citation omitted) (quoting *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 732 (2002)). "Otherwise there would be [a] zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement claims." *Id.* (alteration in the original; internal quotations omitted). The definiteness requirement "mandates clarity, while recognizing that absolute precision is unattainable." *Id.*

The party arguing indefiniteness must show it by clear and convincing evidence. *Microsoft Corp. v. i4i Ltd. P'ship*, 131 S. Ct. 2238, 2242 (2011)); *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 723 F.3d 1363, 1368 (Fed. Cir. 2013). "[C]laims are not indefinite merely because they present a difficult task of claim construction." *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249 (Fed. Cir. 2008). A claim is not indefinite "even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree." *Id.* (quoting *Exxon Research & Eng'g Co. v. United States*, 265 F.3d 1371, 1375 (Fed. Cir. 2001). "Proof of indefiniteness requires such an exacting standard because claim construction often poses a difficult task over which expert witnesses, trial courts, and even the judges of [the Federal Circuit] may disagree." *Id.* (internal quotation marks omitted).

2. Whether the Disputed Claims are Indefinite

Stena argues that the claims are indefinite because there is no objective way to distinguish between drilling operations and auxiliary drilling activity based on which is on or off the critical path. Stena argues that deciding which operations are on the critical path and which are not is left to the subjective understanding of each individual well operator. (Docket Entry No. 74 at 44). "In the absence of a workable objective standard," a claim that is "completely dependent on a person's subjective opinion" is indefinite. *See Datamize LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1350 (Fed. Cir. 2005) (holding that the term "aesthetically pleasing" made the patent claims indefinite because the meaning was left to each individual's subjective understanding).

The leading case for determining indefiniteness is *Orthokinetics Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565 (Fed. Cir. 1986). The patent in *Orthokinetics* involved pediatric wheelchairs designed to make it easier to load and unload a child from a vehicle. *Id.* at 1568. The disputed claim described a wheelchair "wherein said front leg portion is *so dimensioned* as to be insertable through the space between the doorframe of an automobile and one of the seats thereof." *Id.* (emphasis added). The issue was whether the term "so dimensioned" was indefinite. The Federal Circuit held that the term was sufficiently definite, reasoning that "one of ordinary skill in the art would easily have been able to determine the appropriate dimensions" by looking at the space available in the automobile and the size of the chair. *Id.* at 1576. While the term "so dimensioned" could have varying meanings based on automobile shapes and sizes, the meaning was objectively identifiable to one skilled in the art. "The phrase 'so dimensioned' [was] as accurate as the subject matter permits, automobiles being of various sizes." *Id*.

Stena has not carried its burden of demonstrating by clear and convincing evidence that the disputed terms "fail to inform, with reasonable certainty, those skilled in the art" whether a drilling operation is "auxiliary." *Nautilus*, 134 S. Ct. at 2124. Transocean submitted inventor testimony and an expert report stating that one skilled in the relevant art understands what is on the critical path and what is not, enabling that person to distinguish between drilling operations and auxiliary drilling activity.

Inventor Robert Hermann testified in the *Maersk* trial and provided examples of how one skilled in the art would determine whether a given drilling operation is on the critical path. He testified that if it took ten days to drill a well's top hole but only seven days to "run" and lower the blowout preventer, the top-hole drilling would be on the critical path and the blowout preventer would be off the critical path. (Docket Entry No. 78, Ex. 42 at 543). He also explained how an operation on the critical path could switch to being off, and vice-versa, at different stages of an operations sequence, depending on the time it took to complete that operation. (*Id.*, Ex. 42 at 541). To illustrate this point, Hermann pointed to the hypothetical drilling schedule provided in Figure 23b of the patents. Under that schedule, the 44 hours allotted to "running" 20-inch pipe was off the critical path, while the running of the blowout preventer was on the critical path. According to Hermann, if the time to run the 20-inch pipe significantly exceeded 44 hours, the pipe-running operation would change from being off the critical path to on the critical path. (*Id.*, Ex. 42 at 544). Hermann testified that switching operations from on to off the critical path, or the other way around, is a "basic element of scheduling," and that he "never had problems with people understanding" it. (*Id.*).

Transocean also submitted the 2009 expert report of Calvin Barnhill to support the contention that "critical path" is understood in the relevant art. (Docket Entry No. 78, Ex. 41).

Barnhill's report stated that "critical path" is not indefinite and that "one of ordinary skill in the art would have no problem understanding that 'critical path' describes how wells are planned and drilled." (*Id.*, Ex. 41 at 2). Barnhill noted that experts in the litigation between Transocean and GlobalSantaFe "did not express problems understanding" either critical path or auxiliary drilling activity. (*Id.*).

Hermann's testimony and Barnhill's expert report support Transocean's contention that one skilled in the relevant art can objectively distinguish between drilling operations and auxiliary drilling activity based on which operation or activity is on the critical path. Hermann's testimony in particular shows that a drill operator using a multi-activity drilling rig can configure and reconfigure the sequence and schedule of drilling operations so as to change what is on the critical path. These changes do not, however, prevent a person of skill in the art from understanding, with reasonable certainty, whether a given operation is on the critical path. *See Nautilus*, 134 S. Ct. at 2124. The determination is not "completely dependent on a person's subjective opinion." *See Datamize*, 417 F.3d at 1350.

Dictionary definitions of "critical path" are consistent with the inventor testimony and expert report Transocean cited. One dictionary defines "critical path" as "the order in which a series of operations should be done so that a project can be finished as quickly as possible and for the lowest cost possible." *Critical Path*, MACMILLAN, http://www.macmillandictionary.com/dictionary/american/critical-path (last visited October 24, 2014). Another definition is a "path . . . that connects the tasks in a process which are required to be completed for subsequent work to start or which take the greatest amount of time for completion and that provides an estimate of the duration of the entire process." *Critical Path*, MERRIAM-WEBSTER, http://www.merriam-webster.com/dictionary/critical path (last visited October 24, 2014).

Though neither party cited patent or oil-industry treatises expressly defining "critical path," the term has an established project-management meaning that applies across disciplines and industries. This meaning is consistent with the dictionary definitions listed above. For example, Microsoft defines "critical path" as the "series of tasks that must be completed on schedule for a project to finish on schedule" and provides software enabling the user to diagram the critical path. *Show the critical path*, https://office.microsoft.com/en-us/project-help/show-the-critical-path-HP045300871.aspx (last visited October 20, 2014). An article from the online trade publication *TechRepublic* stated that the "critical path" "is simply all the tasks that determine the end date in your project schedule. If one of those tasks is late by one day, then your project end date will be extended by one day." Andrew Makar, *Why Critical Path is Critical to Project Management*, TECHREPUBLIC, http://www.techrepublic.com/blog/ tech-decision-maker/why-critical-path-is-critical-to-project-management (last visited October 22, 2014).

These definitions of "critical path" are consistent with Hermann's testimony and Barnhill's report and support Transocean's construction.[24] Because the term "critical path," as applied to drilling operations, is capable of understanding by one skilled in the relevant art, it is distinguishable from the inherently subjective term "aesthetically pleasing" in *Datamize*, which the Federal Circuit held was indefinite. *See Datamize*, 417 F.3d at 1350.

Stena argues that inventor testimony suggests that "critical path" and "auxiliary drilling activity" are ambiguous. Stena argues that Barnhill's deposition testimony in the *Maersk* case

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[24] The court notes that Ray's depositions from the *GlobalSantaFe* litigation and *Maersk* litigation are consistent with the dictionary definitions. Ray testified in the *GlobalSantaFe* litigation that critical path "is a commonly used tool in the construction business." (*Transocean v. Pacific Drilling S.A.*, No. 4:13-cv-1088, Docket Entry No. 26, Ex. 13 at 49–50). In the *Maersk* litigation, he testified that the term is "generally accepted in projects." (*Id.*, Ex. 9 at 91). These deposition excerpts do not appear to be part of this case's record. While they are in court's records, they are not relied on in reaching the construction.

shows that the meaning of "auxiliary drilling activity" is subjective and left to each operator's understanding. (Docket Entry No. 81 at 19). Barnhill testified that the operator does not "know exactly what's auxiliary and what's not auxiliary until [the operator is] actually planning the well." (*Id.*, Ex. 4 at 126). But Barnhill's testimony does not mean that "auxiliary drilling activity" lacks objective meaning. Instead, his testimony recognizes that although the specific drilling operations that are on or off the critical path at a given time can change, the operator understands the term meaning and can objectively identify corresponding operations.

The fact that the operator may not know precisely what operations are auxiliary (off the critical path) until the drilling schedule or sequence has been planned or completed does not mean that one skilled in the art cannot objectively identify the critical path, drilling operations, and auxiliary drilling activity. Stena has not cited testimony that an artisan cannot objectively determine the critical path or what operations comprise it. Rather, the testimony stated that the artisan may not be able to make such a determination until the drilling schedule or sequence is planned or completed. Like the patent in *Orthokinects*, in which the term "so dimensioned" could not be determined until the space in the automobile was known, what is on the critical path may not be known until the drilling operations schedule and sequence are known. *See Orthokinetics*, 806 F.3d at 1576. Transocean has provided evidence that once the schedule or sequence is in place or completed, one skilled in the relevant art will objectively understand what drilling operations are on and off the critical path. (*See* Docket Entry No. 78, Ex. 42 at 544, Hermann Testimony). Transocean has presented evidence that one of ordinary skill in the relevant art can objectively discern what are drilling operations and what are auxiliary drilling activities.

Stena also submitted testimony from inventor Scott that well operators may disagree on what activities are on or off the critical path. (Docket Entry No. 81, Ex. 3 at 65). Scott testified that "many operators have different ideas" and "major operators have different ways of looking at" whether or not a particular activity is on the critical path, depending on their own internal requirements. (*Id.*, Ex. 3 at 65–66). The testimony is consistent with the other evidence that what is on or off the critical path can change depending on the specific drilling activities, their schedules, and their relative sequences. And even if well operators may disagree about whether a particular operation is on or off the critical path, the possibility of such a disagreement does not mean that the claim is invalid for indefiniteness. The Federal Circuit is clear that a claim is not indefinite "even though [construing the term] may be formidable and the conclusion may be one over which reasonable persons will disagree." *Halliburton*, 514 F.3d at 1249 (quoting *Exxon Research & Eng'g.*, 265 F.3d at 1375). The testimony Stena cited does not prove by clear and convincing evidence that understanding the term "critical path" or what activities may be on or off the path at a particular time is "completely dependent on a person's subjective opinion," as "aesthetically pleasing" was in *Datamize*, 417 F.3d at 1350.[25]

Stena also argues that the specification and one of the patent's figures inconsistently describe whether the operations shown—running the blowout preventer and riser pipe—were on the critical path. Stena compares Figure 23b, showing the blowout preventer and riser operations on the critical path, with language in the specification stating that the invention "enables" the operator to move these operations off the critical path. *See* '851 Patent, 12:25–27. The

[25] Stena points to inventor Ray's deposition in *Transocean v. Maersk*, in which he stated that auxiliary drilling activity could be on the critical path. Stena argues that this is inconsistent with Transocean's proposed construction of auxiliary drilling activity as those removed from the critical path. (Docket Entry No. 74 at 44). Ray's testimony appears to contradict Transocean's construction. But Ray's statement, when viewed in light of the other evidence, does not constitute clear and convincing evidence that the claims are indefinite.

specification and Figure 23b are not inconsistent with each other or with definiteness. Figure 23b is an "illustrative" timeline describing a drilling schedule and critical path. '851 Patent, 4:35. The language from the specification states only that the blowout preventer and riser can be moved off the critical path. The language in the specification does not require that all such activities be on, or off, the critical path at all times. As noted, the operations on the critical path can change depending on the drilling schedule or sequence. There is no inconsistency.

The record supports Transocean's argument that a person skilled in the relevant art can determine the critical path and objectively differentiate between drilling operations and auxiliary drilling activity. The evidence that Stena cites does not prove by clear and convincing evidence that one skilled in the relevant art would be unable to make this determination. The disputed claims are not invalid for lack of definiteness.

The court's construction of the disputed terms is as follows:

Disputed Term	**Court's Construction**
"drilling operations," "drilling activity"	"operations required to construct a well"
"auxiliary drilling activity," "drilling operations auxiliary to said drilling operations," "operations auxiliary to drilling operations," "operations . . . auxiliary to said drilling operations"	"operations removed from the critical path for drilling a well"

IV. Conclusion

The disputed terms are construed as follows:

Disputed Term	Court's Construction
"a derrick" ('781 Patent, claim 10) **"a drilling superstructure"** ('851 Patent, claims 10, 12; '781 Patent, claim 30; '069 Patent, claims 17, 19)	"a single structure mounted upon a drilling deck that supports the load of drilling operations"
"tubular advancing station connected to said drilling superstructure for advancing tubular members" ('069 Patent, claim 17)	"an assembly of equipment capable of advancing tubular members to the seabed"
"means . . . for transferring tubular assemblies" ('851 Patent, claim 10; '781 Patent, claims 10, 30)	A means-plus-function governed by § 112 ¶ 6. Function: transferring tubular assemblies directly between advancing stations or indirectly through a setback envelope. Structure: overhead derrick cranes, rail supported pipe handlers, or equivalent structure.
"assembly . . . operable to transfer tubular assemblies") ('069 Patent, claim 17)	A means-plus-function governed by § 112 ¶ 6. Function: transferring tubular assemblies directly between advancing stations or indirectly through a setback envelope. Structure: overhead derrick cranes, rail supported pipe handlers, or equivalent structure.

"tubular handling system for transferring tubular assemblies between said first tubular setback envelope and said second tubular setback envelope and said first top drive station and said second top drive station" ('781 Patent, claim 13)	A means-plus-function governed by § 112 ¶ 6. Function: transferring tubular assemblies directly between advancing stations or indirectly through a setback envelope. Structure: overhead derrick cranes, rail supported pipe handlers, or equivalent structure.
a "well" ('851 Patent, claim 10; '781 Patent, claims 10, 30; '069 Patent, claim 17) **"the well"** ('851 Patent, claim 10; '781 Patent, claims 10, 30; '069 Patent, claim 17)	"one or more wells"
"drilling operations" ('851 Patent, claim 10; '781 Patent, claims 10–11, 30; '069 Patent, claim 17) **"drilling activity"** ('851 Patent, claim 10; '781 Patent, claims 10, 30; '069 Patent, claim 17)	"operations required to construct a well"

"auxiliary drilling activity" ('851 Patent, claim 10; '781 Patent, claim 30; '069 Patent, claim 17) **"drilling operations auxiliary to said drilling operations"** ('851 Patent, claim 10; '781 Patent, claims 30, 30; '069 Patent, claim 17) **"operations auxiliary to drilling operations"** ('851 Patent, claim 10; '781 Patent, claims 10, 30; '069 Patent, claim 17) **"operations . . . auxiliary to said drilling operations"** ('781 Patent, claims 10–11)	"operations removed from the critical path for drilling a well"

The court's construction of "tubular advancing station connected to said drilling superstructure for advancing tubular members," "assembly . . . operable to transfer tubular assemblies," and "tubular handling system for transferring tubular assemblies between said first tubular setback envelope and said second tubular setback envelope and said first top drive station and said second top drive station" are tentative. The parties may file reactions, no longer than ten pages each side, addressing the tentative rulings, due no later than **Friday, November 14, 2014**.

SIGNED on October 27, 2014, at Houston, Texas.

Lee H. Rosenthal

Lee H. Rosenthal
United States District Judge