

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PERMIAN GLOBAL INC., AND
MANTICORE FUELS, LLC
Petitioners

v.

FUEL AUTOMATION STATION, LLC,
Patent Owner

Case No. IPR2023-01238
Patent 10,974,955

PETITIONERS' REPLY TO PATENT OWNER'S RESPONSE

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EX1022	schematic, Vocabulary.com, https://www.vocabulary.com/dictionary/schematic (accessed June 29, 2023)
EX1023	Vassiliou, M. S. (2018), Historical dictionary of the petroleum industry, Rowman & Littlefield
EX1024	B.A. Wells and K.L. Wells. “Shooters – A “Fracking” History.” American Oil & Gas Historical Society, (https://aoghs.org/technology/hydraulic-fracturing) (last accessed July 17, 2023)
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Patent Owner's ("PO") Response ("POR") repackages claim constructions and other arguments already rejected by the Board but fails to address those arguments' fatal flaws. For example, PO would rewrite "connected" to require a fluid connection with no support in the intrinsic record. Moreover, regarding most of the independent claims, PO does not contest that the combined prior art discloses the disputed claim elements, but instead challenges Petitioners' rationales for combining them. However, PO applies incorrect legal standards, urges irrelevant (or non-existent) distinctions between the references, and misconstrues how the Petition actually uses *Cable* and *Coxreels*. These challenges are both irrelevant and incorrect. PO's limited secondary considerations also lack nexus to the '955 Patent claims, and do not overcome Petitioners' strong obviousness case.

I. CLAIM CONSTRUCTION

A. "each hose connected with a different one of the reels"

Petitioners adopt the Board's preliminary construction of "connected" in the independent claims, in which the Board rejected that "connected" means "fluidly connected." *See* Paper 11 ("ID"), 7. PO now re-urges this same result by construing this phrase as "an end of the hose is coupled to the reel, as opposed to the hose being wound on the reel." POR, 14. The Board should again reject this construction.

Nothing in the specification indicates this phrase should be further construed at all. Notably, PO and its expert don't construe similar language—"hoses connected,

respectively with the reels”—in a related co-pending IPR, confirming that no construction is necessary. IPR2023-01237, Paper 13, at 8.

Here, PO argues “each hose connected with a different one of the reels” excludes or disavows hoses wound on reels. Such exclusionary constructions are suspect, particularly where, as here, nothing in the intrinsic record supports a disavowal. *See Bayer Healthcare LLC v. Baxalta Inc.*, 989 F.3d 964, 973–75 (Fed. Cir. 2021).

Moreover, nothing in the intrinsic record supports (much less requires) coupling the reel to one end of the hose, as opposed to some other type of physical connection. Instead, the specification only describes the relationship between the hose and the reel as the hose being “wound” or “winding” on the reel. EX1001, 3:1-4, 3:52-59. PO attempts to analogize the claim language to the specification’s description of *different* components—fuel tanks—connected to the hoses. POR, 14. But there, the specification expressly describes “connector end 40a” of the hose and the fuel cap to which it is connected. EX1001, 4:31-37. PO’s construction would improperly read similar elements into limitations 1[e], 11[e] and 19[f]. But the

specification does not even describe connector ends or corresponding connectors for the reels.¹

B. “connected to be fed” (claim 1[e])

PO construes this phrase as a connection “that permits fluid to be provided from the manifold to the reels” (POR, 15)—in other words, the reels and manifolds must be fluidly connected. But claim 1 expressly recites that other elements—the manifold and pump—are “fluidly connected.” EX1001. Thus, “connected to be fed” must mean something else. *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1370 (Fed. Cir. 2018); *see also* ID, 7-8.²

Nothing in the claim or specification indicates a fluid connection between the reels and the manifold. Unlike claims 11 and 19, claim 1 specifies two manifolds and that different pairs of reels/hoses are connected to each. So, “connected to be fed” just specifies *which* of the two manifolds feeds which pairs of reels/hoses. No construction of “connected to be fed” is needed, but if the Boards finds construction

¹ The specification does describe “connector 42c” to receive sensor communication lines. *Id.*, 7:54-57. But there’s no such description of reel connectors for receiving an end of a hose.

² Moreover, the Board didn’t construe “connected to be fed” in the Institution Decision, but instead used the phrase to help analyze “connected.” *See* ID, 8.

necessary, it should be construed as “wherein the hoses connected to a portion of the reels receive fluid from the [] manifold”.

II. GROUND 1

A. *Vliet*’s reels are “connected with” or “connected to be fed from” the manifolds by the hoses.

Van Vliet (“*Vliet*”) discloses hoses connected to reels, and hoses connected via fluid outlets to receive fuel from a manifold. Petition, 27 (hoses “receive fuel” from the manifold and are “connected to” the reels); EX1003, ¶¶137-138, 141-144. The relationship between the reels and manifolds is implicit based on *Vliet*’s express disclosure of a relationship between the reels and the hoses, and between the hoses and manifolds. EX1004, [0014]. Nothing in the claims excludes this arrangement. Further, PO doesn’t dispute that the hoses are wound around the reels, or that the hoses are connected via fluid outlets to their respective manifolds. Therefore, *Vliet*’s reels are “connected to”, or “connected to be fed from”, the manifolds via the hoses under the proper constructions of those phrases.

Even under PO’s proposed constructions, *Vliet* at least suggests that the reels are fluidly connected to the manifolds. A POSITA would have understood *Vliet* discloses that reel 30 is part of a single fluid stream including manifold 36/38, fluid

outlet 22, and hose 24.³ EX1003, ¶¶141-143; *see id.* ¶142, FIG. 1 (“single fluid stream” annotated in red). Accordingly, a POSITA would have understood reel 30 is fluidly connected to the manifold and the hose. *Id.* *Vliet* discloses a spill containment pan positioned to catch fluids leaking from *the reels*. EX1004, [0022]. For fluids to leak from reels, fluids must be flowing through the reels, and the reels must be connected to a manifold to receive fluid. EX1003, ¶136. Petitioners’ expert Dr. Durham doesn’t hold out “contradictory views” but sets forth alternative theories.⁴ Thus, *Vliet* discloses reels “connected with” or “connected to be fed from” the manifolds.

B. Alternatively, it would have been an obvious design choice for a POSITA to implement manifolds fluidly connected to hoses through the reels in *Vliet*.

The Petition explained that it would have been an obvious design choice for a POSITA to implement manifolds fluidly connected with the reels to the extent *Vliet*

³ This relationship also satisfies claim 1[e]’s requirement that the reel is “connected to be fed from the [] manifold,” and claims 11 and 19’s “connected with” requirement.

⁴ Dr. Durham recognized that *Vliet*’s Figure 1 is a schematic diagram that does not show physical appearance or form (EX1003, n.138), but instead shows fluid flow. EX2028, 37:11-17, 94:9-13. Dr. Rodgers agrees. EX1049, 54:16-55:14.

doesn't disclose it. Petition, 27 n.6; *id.*, 37-38; EX.1003, ¶¶140, 179. PO doesn't dispute that rationale, but instead argues Petitioners haven't presented sufficient support for it.⁵ *See* POR, 21-22. There is, however, ample evidence to support this conclusion.

As PO's expert agreed, there are only two methods of solving the problem of using reels to support hoses for distributing hydrocarbons and other fluids to other equipment: (1) routing the fluid through a flow path in the reel (*e.g.*, using a swivel joint) so that the reel forms part of the flow path, or (2) not routing the fluid through the reel. EX1049, 71:1-72:10.⁶ Both methods were commercially available and known to POSITAs before the '955 Patent. *Id.*; EX1003, ¶¶64-74 (referenced in ¶140, n.150); EX1015. A POSITA would have recognized these two methods as the

⁵ PO also faults Petitioners for not citing legal standards for an obvious design choice. POR, 21. Regardless, those legal standards are cited below and binding on the Board. *See Rovalma, S.A. v. Bohler-Edelstahl GmbH & Co. KG*, 856 F.3d 1019, 1024 (Fed. Cir. 2017 (agency findings and conclusions not in accordance with law are unlawful under 5 U.S.C. § 706)).

⁶ Petitioners have included Exhibit 14 to Dr. Rodgers's deposition in EX1050 per the Board's practice. However, Petitioners do not waive their objections to that exhibit or to Dr. Rodgers's testimony.

available means for using reels to support hoses to supply fluid to equipment.

EX1049, 71:1-72:10. Accordingly, there was a "[f]inite number of identified, predictable solutions" to a design need, and a POSITA would have had good reason to pursue either solution. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421, (2007); *Uber Techs., Inc. v. X One, Inc.*, 957 F.3d 1334, 1339-40 (Fed. Cir. 2020) (reversing Board's finding of no motivation to combine references solving the same problem with different features that were both well-known and the only ways to achieve the desired function). Therefore, it would have been obvious to implement reels with internal flow paths and swivel joints to connect *Vliet's* hoses to be fed by the manifolds. EX1003, ¶¶178-79, 197.

III. GROUND 2⁷

To the extent the '955 Patent claims require that the manifolds be fluidly connected to the reels, the *Vliet-Cable* combination renders them obvious.

A. Even if *Cable* has different uses, a POSITA would have considered it in modifying *Vliet*.

PO doesn't contest *Cable's* teachings, but disputes whether a POSITA would have looked to *Cable* to modify *Vliet*. See POR, §VI.B. PO's arguments either apply the wrong legal standard or urge irrelevant issues.

⁷ These arguments also apply to Grounds 3A and 4A, which incorporate Ground 2.

PO argues *Cable*'s teachings are inapplicable to *Vliet* because *Cable* is for dispensing lubricant in a "fast service in a roadside environment." POR, 32. But PO doesn't dispute that *Cable* is analogous art under *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). See Petition, 34-36; EX1003, ¶¶172-173. Differences in their exemplary applications would not have discouraged a POSITA from combining their teachings.

PO's arguments regarding *Cable*'s and *Vliet*'s intended uses are also unsupported by evidence. Nothing in *Cable* limits it to "fast service in a roadside environment". *Cable* does not even mention "roads", "streets", "highways", or "shoulders," much less that *Cable*'s design is only useful there. PO's assertions that *Vliet* is "not concerned with rapid servicing" and "does not share the same safety concerns" as *Cable* (POR, 35) are also rebutted by its own evidence. A POSITA would have known that downtime in fracturing operations—including while rigging up/down refueling systems—added cost, and that areas surrounding refueling systems were hazardous. See EX1049, 33:13-34:13; EX1004, ¶0002 (discussing "[d]angers"); EX1029, 2 ("increase worker safety by minimizing exposure time around the hot zones"). Even if details of these concerns differ in *Cable* and *Vliet*, a POSITA would have considered them analogous. Cf. EX1003, ¶¶173-174. PO also limits *Cable* to dispensing lubricant to road vehicles based on references it cites (POR, 33); but *Cable*'s prosecuting examiner deemed its relevant field broader,

citing references about refueling systems for airplanes.⁸ EX1005, 1 (citing EX1056 & EX1057). Finally, PO differentiates *Cable*'s "drivable" van from *Vliet*'s towable trailer (POR, 35-36), but doesn't explain why that would discourage a POSITA from considering *Cable*'s teachings about similar equipment (e.g., reels) or interior equipment configuration for *Vliet*'s trailer.

PO's expert merely parrots PO's argument and cites little evidence supporting his interpretations. See EX2011, ¶¶157-170. Regardless, a POSITA is "a person of ordinary creativity, not an automaton," and would consider *Cable*'s arrangement of equipment and reel components potentially useful in *Vliet*. See EX1003, ¶¶172-175; *KSR*, 550 U.S. at 421 (cannot assume "that a [POSITA] attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem"). Such conclusory expert testimony contrary to the evidence and law should be afforded no weight. See *Skky, Inc. v. MindGeek, s.a.r.l.*, 859 F.3d 1014, 1022 (Fed. Cir. 2017).

B. PO applies an improper bodily incorporation standard.

PO's arguments that "*Cable* is not informative of a practical arrangement for *Vliet*" (POR, 36) and that "*Cable* teaches that the walkway is also a storage area" (POR, 40) fail because they attempt to impose an improper bodily incorporation

⁸ Moreover, PO's own evidence characterizes diesel as a "lubricant". EX2023, 11.

standard. These arguments ask whether a POSITA could implement the *illustrated embodiment* of *Cable* in the *illustrated embodiment* of *Vliet*. But “[t]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference[.]” *Allied Erecting & Dismantling Co. v. Genesis Attachments, LLC*, 825 F.3d 1373, 1381 (Fed. Cir. 2016) (quoting *In re Keller*, 642 F.2d 413, 425 (C.C.P.A. 1981)). Instead, the question is whether “a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention[.]” *Id.* (quoting *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1361 (Fed. Cir. 2007)) (emphasis added). Indeed, the Federal Circuit has explained that whether one reference can be incorporated in another is “basically irrelevant.” *In re Etter*, 756 F.2d 852, 859 (Fed. Cir. 1985) (en banc).

Regarding PO’s contention that “*Cable* is not informative of a practical arrangement for *Vliet*,” PO argues that because *Cable* and *Vliet* have different equipment, a POSITA would have understood that “*Cable*’s arrangement would not represent a viable option for arranging *Vliet*’s equipment.” POR, 36-37. This argument does not address whether *Cable*’s *teachings* can be applied to *Vliet* but rather targets *physical incorporation*. See e.g., POR, 37 (“equipment in *Vliet* cannot be arranged according to *Cable*’s arrangement because *Vliet* has different equipment

that would differ in size and shape from *Cable*'s"). This argument is improper and should be given no weight.

PO's statement that "*Cable* teaches that the walkway is also a storage area" (POR, 40) is similarly based on improper bodily incorporation because it also assumes ***physical incorporation*** of an embodiment of *Cable* into *Vliet* and thus fails for analogous reasons.

C. The Petition articulates sufficient reasons for modifying *Vliet* with *Cable*'s teachings regarding its reel.

PO doesn't dispute that *Cable* discloses a reel assembly that includes a "conventional reel rotatable coupling", *i.e.*, a swivel joint, or that that disclosure satisfies claims 1[e], 11[e], and 19[f]. Petition, 37-38.

PO also doesn't dispute that the Petition discusses at least ***some*** reason to combine *Vliet* and *Cable*. *See supra* §IV.A; Petition, 34-37. PO only disputes whether the reason to combine is specific to claims 1[e], 11[e], and 19[f]. As an initial matter, PO cites no law requiring that the rationale to combine references be specific to particular claim limitations. To the contrary, once a motivation to combine is established, the combination is valid for all elements relied upon, without having to show a motivation for each claim element. *See General Electric Co. v. Raytheon Techs. Corp.*, 983 F.3d 1334, 1352 (Fed. Cir. 2020) ("the law has always evaluated the motivation to combine elements based on the combination of prior art ***references*** that together disclose all of the elements of the invention," criticizing the

Board’s approach “requir[ing] a motivation to combine each element of the claim” as “unduly dissect[ing]” prior art references into collections of individual elements) (emphasis in original); *see also Google LLC v. Sonos, Inc.*, No. 2023-1259, 2024 WL 2350509, at *3 (Fed. Cir. May 23, 2024) (motivations to combine need not be presented on a claim-by-claim basis).

Even if such a specific rationale is required, the Petition explains why it would have been obvious to incorporate *Cable*’s teachings regarding its fluid-connected reel into *Vliet*. *Vliet* and *Cable* describe similar systems that include many overlapping components such as hose reels. EX1004, [0014], [0015]; EX1005, 1:40-65 (“a first reel assembly” that includes the rotatable coupling); Petition, 34. *Vliet*’s system already includes hose reels, and claims 1[e], 11[e], and 19[f] only (arguably) differ in that they require reels with internal flow paths.⁹ But it is undisputed that reels with internal flow paths were known before the ‘955 Patent, and that incorporating a reel like *Cable*’s with such a flow path into *Vliet* would lead to the predictable result of routing fluid from the manifold to the hose, via the reel flow

⁹ The Board recognized, and PO does not dispute, that Ground 2 incorporates Ground 1. ID, 13; *see also* Petition, 43 (“[a]s explained with respect to Ground 1 above, and incorporated herein by reference ...”); *id.*, 27 n.6 (citing EX1003, ¶¶139-140).

path, and out to the desired piece of equipment to facilitate fueling thereof. Petition, 37-38 (citing EX1003, ¶¶174-175, 178-179); EX1049, 37:2-8. Thus, as the Petition states, “[i]ncorporating *Cable’s* [] reel configuration¹⁰ into *Vliet’s* mobile fuel delivery system would merely involve combining prior art elements according to known methods to yield predictable results.” Petition, 37-38; *see Agrizap, Inc. v. Woodstream Corp.*, 520 F.3d 1337 (Fed. Cir. 2008) (substitution of one known element for another to obtain a predictable result is obvious).

Moreover, there are only a finite number (two) of solutions to solve the problem of using reels to support hoses for distributing fuel to other equipment in *Vliet*. *See supra* §III.B; EX1049, 71:1-12. *Cable* shows one of those solutions, namely, routing the fluid from the manifold to the hose through the reel using a swivel joint. “*It would have been an obvious design choice* for a POSITA to implement *these kinds of reels and connections* to connect the hoses of *Vliet* to be fed by the manifolds...” Petition, 38 (citing EX1003, ¶¶178-179, stating that “a conventional reel rotatable coupling”, *i.e.*, a swivel joint, was a well-known component).

¹⁰ Dr. Durham testified that *Cable’s* reel configuration includes the reel’s internal flow path (EX2028, 107:17-17), which requires a rotatable coupling. EX1003, ¶¶69-74.

There is more than sufficient evidence to support these rationales for combining *Vliet* and *Cable*. Dr. Durham explains that a fluid-connected reel would have been an obvious design choice because “the intent of both [*Vliet* and *Cable*] is to deliver hydrocarbons from tanks and pumps to hoses on reels.” EX1003, ¶140. He also states that the type of “conventional reel rotatable coupling” in *Cable* was well-known to POSITAs, citing *Coxreels* (EX1015), *Henry* (EX1027), and the Husky website (EX1016) as examples. EX1003, ¶¶59, 64-74, 178-179. Dr. Durham further explained in related co-pending IPR2023-01236 that a POSITA designing *Vliet*’s system would have looked to such commercially available reels and reel components since they would have presented predictable, “cost-effective and readily available option[s]” for efficiently building that system. EX1048, ¶¶150-153.¹¹ This

¹¹ Petitioners’ use of EX1048 is appropriate. PO made EX1048 an exhibit to Dr. Durham’s deposition in this proceeding, the transcript of which PO made of record. EX2028, 17:1-17. Moreover, Dr. Durham’s deposition was conducted jointly in this IPR and IPR2023-01236 at PO’s request. *See* EX1054 (PO’s email of 5/3/24); EX2028, pg.i-1. Therefore, PO has already made EX1048 of record in this case, and Petitioners simply provide a copy of it to conform the record. *See Intex Recreation Corp. et al v. Team Worldwide Corp.*, IPR2018-00874, Paper 149, at 129-131 (PTAB Oct. 25, 2019) (proper to maintain deposition exhibits in the record when the

rationale to combine *Coxreels* with *Vliet* would have been equally relevant to combining *Cable*'s teaching of a "conventional reel rotatable coupling" with *Vliet*. Finally, both parties' experts agree that a POSITA designing *Vliet*'s system would have wanted the hose to wrap around the reel spindle evenly without crimping and would have known that a reel with an internal fluid passage and rotatable coupling would facilitate that. EX1049, 62:21-69:2, 168:20-169:11; EX2028, 78:15-25. Thus, the evidence shows that a POSITA would have been motivated to use *Cable*'s teaching of a reel assembly having "a conventional reel rotatable coupling" in *Vliet*'s system.

PO does not challenge these rationales (or address EX1016 or EX1027 at all), but instead attacks *Coxreels* by arguing that certain of its reels would not have been suitable in *Vliet*'s system. POR, 24-32. However, this attack misapprehends the Petition. Petitioners do not combine *Coxreels* or any particular reel it discloses with *Vliet* to reach the '955 Patent's claims. Instead, Petitioners rely on *Coxreels* as **evidence** of a POSITA's background knowledge and commercially available alternatives that would have motivated a POSITA to use ***Cable***'s teaching of "a

deposition covered multiple, related proceedings). *Intex* was cited to Petitioners by PO in the 5/3/24 email. *See* EX1054.

conventional reel rotatable coupling” with *Vliet*. The Board must analyze *Vliet* and *Cable* in the context of the “background knowledge possessed by a [POSITA].” *KSR*, 550 U.S. 398. In *Randall Mfg. v. Rea*, by narrowly focusing on four prior art references and “ignoring the additional record evidence [petitioner] cited to demonstrate the knowledge and perspective of [a POSITA], the Board failed to account for critical background information that could easily explain why [a POSITA] would have been motivated to combine or modify the cited references to arrive at the claimed inventions.” 733 F.3d 1355, 1362 (Fed. Cir. 2013). PO’s attack does not refute this use of *Coxreels* and assumes a bodily incorporation requirement that neither the petitioned Grounds nor the law require. *See In re Etter*, 756 F.2d 852, 859 (Fed. Cir. 1985) (en banc).¹²

D. A POSITA would have considered *Cable*’s teaching of a walkway in arranging the system of *Vliet*.

PO asserts that a POSITA would have been discouraged from incorporating *Cable*’s central aisleway with reels along either side because *Cable* allegedly teaches that the “walkway doubles as a storage area.” POR, 40-41. PO’s argument is wrong.

¹² To the extent the Board deems this attack relevant to the petitioned Grounds, Dr. Durham has refuted it, showing that Dr. Rodgers’s underlying analysis relies on unfounded assumptions. EX1055, ¶¶9-42.

First, *Cable* does not state that the “walkway doubles as a storage area.” Instead, *Cable* says “[t]he tank bays 19 and 21 are spaced apart a distance 22 (FIG. 2) **forming a walkway and storage area therebetween . . .**” EX1005, 2:56-58 (emphasis added). An equally plausible interpretation is that distance 22 is sufficiently wide for **both a walkway and storage area**. Indeed, *Cable* doesn’t state that items in the storage area would block the walkway, as PO suggests; instead, *Cable* teaches the walkway is sufficiently wide to “allow[] a person to walk between the tanks . . .” *Id.* at 2:39. Additionally, even if *Cable* were properly interpreted as PO suggests, nothing in *Cable* requires the spacing 22 to be used as a storage area at the same time. PO’s expert confirmed that a POSITA would not expect to use spacing 22 as a walkway while the van is in transit, which is when items would be stored there. *See* EX1049, 205:11-206:25. Those items would then be removed from spacing 22 for use in servicing while the van is stationary, facilitating safe use of spacing 22 as a walkway. *See id.* That use would not discourage a POSITA from incorporating *Cable*’s walkway as PO suggests.

Second, PO essentially repackages an argument the Board previously rejected (ID, 15), and again fails to explain why the lack of complete identity of equipment between *Cable* and *Vliet* renders them so dissimilar that a POSITA would not even consider *Cable* in configuring *Vliet*’s system. The Board should again reject this argument as conclusory and unsupported. To the extent PO argues *Vliet*’s trailer

cannot incorporate *Cable's* spacing 22 wide enough to accommodate both a walkway and a storage area, such an argument would impose a bodily incorporation requirement. *See In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012). PO's argument also wrongly assumes a POSITA could only blindly incorporate *Cable's* exact aisleway configuration into *Vliet's* system without applying any common sense, creativity, knowledge, or skill. *See KSR*, 550 U.S. at 421; *Randall Mfg.*, 733 F.3d at 1362. But a POSITA is not an automaton, *KSR*, 550 U.S. at 421, and would be able to adjust *Cable's* aisleway as needed to comply with accepted safety standards or other spatial requirements. *See* EX1004, [0027] ("spatial orientation . . . of the equipment . . . is a matter of design choice for the manufacturer and will depend on space requirements"); *In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1382 (Fed. Cir. 2007) ("[w]e do not ignore the modifications that [a POSITA] would make to a device borrowed from the prior art. . . . [A POSITA] would size the components from [the prior art] appropriately for [PO's claims], therefore producing an embodiment meeting [those] claims.").¹³

¹³ The '955 Patent claims also do not require an aisle walkway of particular width, so an aisle walkway narrower than *Cable's* would still satisfy those claims.

IV. GROUNDS 3 AND 3A

PO does not challenge *LCR I* and *II*'s teachings but rather support for locating the register between the pump and manifold, *i.e.*, directly downstream of the pump, as required in claim 19.¹⁴ POR, 42-44. PO is wrong. First, *LCR II* shows the below image of a refueling system with a register (blue) installed directly downstream of a pump (magenta).



EX1007, 3 (annotated); *see also* Petition, §VIII.C-D; EX1003, ¶¶199-202.

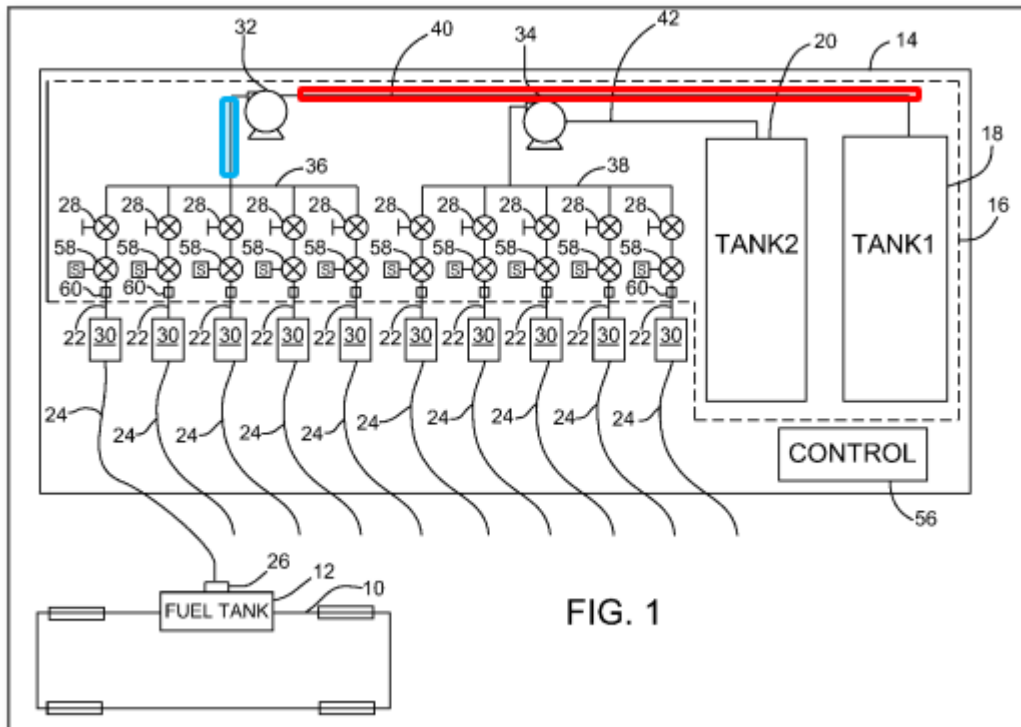
Second, it would have been obvious to install the register directly downstream of *Vliet*'s pumps to provide accurate flowrate measurements and invoice the total

¹⁴ PO does not separately challenge any other claims under these Grounds.

amount of fuel delivered. Petition, 55; EX1003, ¶¶224, 226; *see also* POR, 43.

Moreover, installing the register directly downstream of *Vliet*'s pumps would have been an obvious design choice to simplify the system. Petition, 55; EX1003, ¶226.

PO concedes that placing the register downstream of *Vliet*'s manifold would require a register for each outlet from the manifold, *i.e.*, ten registers for the Figure 1 embodiment. POR, 43; EX 2011, ¶198. Installing more registers would have increased the system's cost and complexity. EX1049, 217:19-23. Therefore, a POSITA would have been motivated to employ the smallest number of registers possible. *Id.* There are only two locations in *Vliet*'s schematic that would capture the total amount of fuel delivered with the fewest registers: (1) immediately upstream of each pump 32/34 (red below), or (2) directly downstream of each pump 32/34 (blue below).



EX1004, Fig. 1 (annotated); *see* EX1049, 216:20-218:13. There is a finite number (two) of design choices that achieve the aforementioned benefits and goals,¹⁵ and a POSITA would have had a good reason to pursue either of them. *KSR*, 550 U.S. at 421, (2007); *Uber Techs.*, 957 F.3d at 1339-40; EX1049, 216:17-19.

PO’s argument that “a register could beneficially be located elsewhere” in *Vliet’s* system (POR, 43) is immaterial because the location claimed need not be the most obvious or most desirable choice. *In re Fulton*, 391 F.3d 1195, 1200 (Fed. Cir.

¹⁵ Even PO only suggests four potential locations relative to the pump and manifold where the register could be installed—still a finite number. *See* POR, 43 (yellow, blue and green boxes).

2004). Even if locating the register upstream of the pump would also minimize the number of registers, the law requires only “a suitable option from which the prior art did not teach away.” *PAR Pharm., Inc. v. TWI Pharms., Inc.*, 773 F.3d 1186, 1197-98 (Fed. Cir. 2014). PO and its expert recognize installing the register directly downstream of the pump as a suitable option, and PO does not argue the prior art teaches away from it. Therefore, locating the register there in *Vliet*’s system would have been obvious.

V. GROUND 4 AND 4A: VLIET AND DEFOSSE.

PO’s assertion that Petitioners rely solely on *Vliet* and *DeFosse* being analogous art to establish a motivation to combine (POR, 44-45) is simply incorrect. *See* Petition, 58. Dr. Durham explains a POSITA would have understood that *DeFosse*’s teachings regarding the benefits of series pumping would have applied to *Vliet*, which also employs pumps. EX1003, ¶243. Dr. Durham details the benefits of series pumping and explains that a POSITA would have been motivated to use series pumping with *Vliet*’s pumping system to obtain similar benefits. *Id.*, ¶¶244-251. Moreover, because *DeFosse* and *Vliet* both relate to hydraulic fracturing, a POSITA would be exposed to both types of systems at frac sites, and when designing *Vliet*’s system, would look to look to other pump systems at those sites, such as *DeFosse*’s series pumps. *Id.*, ¶251. Petitioners also assert “[i]ncorporating *DeFosse*’s series pumping into *Vliet*’s fuel delivery system would merely involve combining prior art

elements according to known methods to yield predictable results— that is, enabling *Vliet*'s system to utilize pumps in series.” Petition, 60; EX1003, ¶¶251-254.

PO tries to distinguish *DeFosse* because its pumps do not pump fuel (POR, 46) and pump larger fluid volumes than *Vliet*'s. POR, 46-47. But PO never explains why these differences would matter to combining *DeFosse*'s teachings of series pumping into *Vliet*. A POSITA would have understood that the benefits of series pumping described by Dr. Durham are not contingent on fluid type or volume. EX1003, ¶¶243-254.

Finally, PO's assertion that Dr. Durham's opinions regarding *DeFosse* lack a “factual basis” is unclear. POR, 47-48. Dr. Durham need not cite a literature source for each of his assertions regarding what a POSITA would have known. Dr. Durham is imminently qualified to testify about the benefits of series pumping and its applicability to an automated fuel delivery system such as *Vliet*'s. His opinions are technically accurate and logically explained, and PO does not demonstrate otherwise.

VI. SECONDARY CONSIDERATIONS

As an initial matter, the Board cannot presume nexus to the '955 Patent as PO suggests. POR, 50. PO relies on the same evidence of secondary considerations for this patent as well as the different claims of two other patents. *Compare* POR, 50-

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55 with IPR2023-01236, Paper 15, 34-40 & IPR2023-01237, Paper 13, 39-45.¹⁶ But

“the same evidence of secondary considerations cannot be presumed to be attributable to two different combinations of features.” *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1378 (Fed. Cir. 2019).

A. Praise and Commercial Success

PO also lacks sufficient evidence that its refueling systems practice the ‘955 Patent’s claims. PO provides only Dr. Rodgers’s bare conclusion that PO’s units practice the independent claims and three screenshots from a YouTube video.¹⁷ EX2011, ¶219. Without mapping the claim elements to PO’s systems, Dr. Rodgers’s bare conclusions cannot support nexus. *Volvo Penta of the Americas, LLC v. Brunswick Corp.*, 81 F.4th 1202, 1211 (Fed. Cir. 2023); *TalexMedical, LLC v. Beacon Med. Ltd.*, No. 2021-2069, 2022 WL 2898934, at *9 (Fed. Cir. July 22, 2022). Even the screenshots do not show several claimed elements:

- reels “connected to be fed” from manifolds
- pump in container
- fluid level sensors associated with hoses
- valves between manifolds and reels

¹⁶ PO also marks its refueling units with at least 15 other patents. EX2031, 1.

¹⁷ These screenshots are also only demonstratives, not evidence of record.

- register between pump and manifold

Moreover, any nexus is disproven by PO's own arguments about alleged benefits of its refueling systems. For example, the award to PO's inventor and PO's response tout benefits of "hot refueling" and removing workers from a "hot zone" around fracturing equipment. EX2043, 4-5; POR, 2-6. But those benefits are not enabled by the purportedly novel claim elements. *See* EX1055, ¶¶6-8. Indeed, the *Vliet*, *AFD*, and Frack Shack systems had these benefits,¹⁸ and the claims' elements absent from *Vliet* (e.g., fluidly connected reels, aisle walkways, fluid register's location) have nothing to with the allegedly-praised and successful benefits. EX1055, ¶¶7-8. Praise or success based on features in the prior art cannot rebut the obviousness of claims that simply add *other* features. *See ClassCo, Inc. v. Apple, Inc.*, 838 F.3d 1214, 1220 (Fed. Cir. 2016) (discounting evidence relating to features in prior art); *Bayer Healthcare Pharm., Inc. v. Watson Pharm., Inc.*, 713 F.3d 1369, 1377 (Fed. Cir. 2013) (discounting "praise of what was clearly rendered obvious"). PO also argues that wired fluid level sensors (instead of wireless) contributed to its

¹⁸ EX2011, ¶¶63, 84; EX1003, ¶¶ 43, 105; EX1004, [0002]-[0003] (discussing "[d]angers" onsite, system "reduc[es] the likelihood that a fuel tank ... during fracturing ... will run out of fuel"); EX1029, 2; EX1017, 1-2 ("remove[s] workers from the hot zone" and "[n]o slow down or stopping to refuel").

systems’ alleged success. POR, 4-6. But none of the ‘955 Patent’s claims require wired sensors.¹⁹ See EX1055, ¶6; *Ethicon Endo-Surgery, Inc. v. Covidien LP*, 812 F.3d 1023, 1034 (Fed. Cir. 2016) (discounting success due to unclaimed features).

B. Alleged Copying and Licensing

First, PO merely accused Petitioners and Comanche of infringing its patents. POR, 51-54. Even if they were found to infringe—and they were not—infringement is not the same as copying. See *Iron Grip Barbell Co., Inc. v. USA Sports, Inc.*, 392 F.3d 1317, 1325 (Fed. Cir. 2004). And there is no evidence that Petitioners or anyone else copied PO’s systems. Petitioners’ citing of PO’s patent as prior art in a patent application is not copying either. POR, 51. If anything, it suggests the opposite—that Petitioners thought their invention was patentable over PO’s and therefore different, and Petitioners simply had a duty to cite known art. See 37 C.F.R. §1.56.

Regarding Comanche’s license, PO merely asserts that Comanche took a license to settle litigation. POR, 54. PO provides no evidence of the agreed royalty amount, that Comanche acknowledged practicing PO’s patents, or that Comanche *has paid any* royalties. Such limited evidence has little weight. See, e.g., *In re Cree, Inc.*, 818 F.3d 694, 703 (Fed. Cir. 2016) (unknown “if the licensing program was

¹⁹ *Vliet* also discloses wired sensors. See EX1004, [0020]; EX1003, ¶143; EX1055, ¶6.

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successful either because of the merits of the claimed invention or because they were entered into as business decisions to avoid litigation, because of prior business relationships, or for other economic reasons”).

PO’s only arguable secondary considerations consist of one award, a single license agreement, and a measure of its system’s commercial use with no context for its pervasiveness in the market. POR, 50-55. Such limited evidence cannot overcome Petitioners’ strong obviousness case.

Respectfully submitted,

BAKER BOTTS L.L.P.

August 28, 2024

Date

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CERTIFICATE OF COMPLIANCE

I hereby certify that this Petitioners' Reply to Patent Owner's Response complies with the type-volume limitations of 37 C.F.R. § 42.24(c)(1) because it contains 5,545 words (as determined by the Microsoft Word word-processing system used to prepare the reply), excluding the parts of the reply exempted by 37 C.F.R. § 42.24(c).

Dated: August 28, 2024

By: /Elizabeth D. Flannery/

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Lead Counsel for Petitioner

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CERTIFICATE OF SERVICE

In accordance with 37 C.F.R. § 42.6(e), the undersigned certifies that on August 28, 2024, a complete and entire copy of the foregoing **PETITIONERS' REPLY TO PATENT OWNER'S RESPONSE** and supporting exhibits were served on Patent Owner via electronic mail at the below addresses:

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