

NOTE: This disposition is nonprecedential.

**United States Court of Appeals  
for the Federal Circuit**

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**LIQUIDPOWER SPECIALTY PRODUCTS INC., FKA  
LUBRIZOL SPECIALTY PRODUCTS, INC.,**  
*Appellant*

v.

**BAKER HUGHES HOLDINGS, LLC, FKA BAKER  
HUGHES, A GE COMPANY, LLC,**  
*Appellee*

**KATHERINE K. VIDAL, UNDER SECRETARY OF  
COMMERCE FOR INTELLECTUAL PROPERTY  
AND DIRECTOR OF THE UNITED STATES  
PATENT AND TRADEMARK OFFICE,**  
*Intervenor*

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2020-2001, 2022-1248

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Appeals from the United States Patent and Trademark  
Office, Patent Trial and Appeal Board in No. IPR2016-  
00734.

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**LIQUIDPOWER SPECIALTY PRODUCTS INC., FKA  
LUBRIZOL SPECIALTY PRODUCTS, INC.,**  
*Appellant*

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BAKER HUGHES HOLDINGS

v.

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HUGHES, A GE COMPANY, LLC,**  
*Appellee*

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COMMERCE FOR INTELLECTUAL PROPERTY  
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*Intervenor*

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2021-2283, 2021-2284, 2021-2285, 2022-1152, 2022-1153,  
2022-1155

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Appeals from the United States Patent and Trademark  
Office, Patent Trial and Appeal Board in Nos. IPR2016-  
00734, IPR2016-01901, IPR2016-01903, IPR2016-01905.

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Decided: April 13, 2023

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Before LOURIE, REYNA, and CHEN, *Circuit Judges*.

LOURIE, *Circuit Judge*.

LiquidPower Specialty Products Inc. (“LSPI”) appeals from two final written decisions on *inter partes* review by the United States Patent and Trademark Office Patent Trial and Appeal Board (“the Board”) holding that claims 8–10 of U.S. Patent 8,022,118 (the “118 patent”), claims 1–5 of U.S. Patent 8,450,249 (the “249 patent”), claim 3 of U.S. Patent 8,426,498 (the “498 patent”), and claims 1–9 of U.S. Patent 8,450,250 (the “250 patent”) are unpatentable as obvious. *See Baker Hughes v. LiquidPower Specialty Prods. Inc.*, Case No. IPR2016-00734, Paper No. 93, J.A. 1–31 (P.T.A.B. Nov. 14, 2019) (“118 Patent Decision”); *Baker Hughes v. LiquidPower Specialty Prods. Inc.*, Case Nos. IPR2016-01901, IPR2016-01903, IPR2016-01905, Paper No. 79, J.A. 8759–8790 (Apr. 30, 2021) (“249 Patent, et al. Decision”). We consolidated these appeals for oral argument and we decide both of them in this opinion. We *affirm*.

#### BACKGROUND

The patents in suit are owned by LSPI and are directed to a drag reducing agent (“DRA”) that reduces friction, or drag, when heavy crude oils are transported through a pipeline. Heavy, asphaltenic crude (“HAC”) is typically difficult to transport by pipeline due to drag, and historically, undesirable steps were taken to transport HAC such as adding diluents, heating the oils to reduce viscosity, or transporting the oils by rails or truck rather than pipeline. The claims at issue are method claims that recite introducing a polymer having a heteroatom, *i.e.*, an atom other than carbon or hydrogen, into a pipeline at a desired molecular weight and concentration to reduce the drag of the HAC. LSPI markets ExtremePower® products that embody the claimed methods.

These cases have been before us previously. Baker Hughes Holdings, LLC (“Baker Hughes”) petitioned for *inter partes* review, arguing that several claims of the patents in suit were unpatentable as obvious over various prior art references. In its original decisions, the Board held that all of the challenged claims would have been obvious over the asserted prior art. On appeal from the Board’s holding with respect to the ’118 patent, we found that substantial evidence supported the Board’s findings that (1) the prior art disclosed all claim limitations, and (2) that a person of ordinary skill would have been motivated to combine the prior art references with a reasonable expectation of success. *See LiquidPower Specialty Prods. Inc. v. Baker Hughes*, 749 F. App’x 965, 969 (Fed. Cir. 2018). However, we held that the Board erred by not considering the objective indicia evidence, and we vacated and remanded the Board’s decision so that it could consider such evidence. *Id.* Similarly, on appeal from the Board’s holdings with respect to the ’249, ’498, and ’250 patents, we vacated and remanded the Board’s decision in light of its failure to consider the objective indicia evidence. *See LiquidPower Specialty Prods. Inc. v. Baker Hughes*, 810 F. App’x 905, 906–07 (Fed. Cir. 2020).

On remand, the Board issued two final written decisions holding that the challenged claims were unpatentable as obvious. In those decisions, the Board addressed LSPI’s objective indicia evidence and found it to be entitled to little weight. Specifically, the Board found that the evidence of long-felt need, failure of others, unexpected results, industry praise, commercial success, copying, and acquiescence, when considered and weighed with the strong and substantial evidence of the factors favoring obviousness, supported a conclusion that the challenged claims would have been obvious.

LSPI appealed the two Board decisions to this court. However, following the Supreme Court’s decision in *United States v. Arthrex, Inc.*, we remanded the case for the limited

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purpose of allowing LSPI the opportunity to request director rehearing of the final written decision. 141 S. Ct. 1970 (2021). LSPI then filed that request, and Andrew Hirshfeld, the Commissioner for Patents, performing the duties of the director, denied that request. LSPI then filed an additional notice of appeal. We have jurisdiction under 28 U.S.C. §§ 1295(a)(4)(A).

#### DISCUSSION

We review the Board’s legal determinations *de novo* and its factual findings for substantial evidence. *In re Van Os*, 844 F.3d 1359, 1360 (Fed. Cir. 2017). Obviousness is a question of law based on underlying facts. *Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1358 (Fed. Cir. 2017). The obviousness inquiry requires consideration of the four *Graham* factors: “(1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of ordinary skill in the art; and (4) objective considerations of nonobviousness.” *Id.* (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966)). These are questions of fact. *Id.* Objective indicia include long-felt but unresolved need, failure of others, skepticism of experts, unexpected results, industry praise, commercial success, copying, and acquiescence. *See Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 660, 667–68 (Fed. Cir. 2000).

LSPI argues that the Board misunderstood our mandate to preclude it from evaluating on remand, in light of the objective indicia evidence, whether there was a motivation to combine the prior art with a reasonable expectation of success. LSPI further adds that our mandate did not set in stone the Board’s prior findings, but instead that we merely determined that substantial evidence existed to support those findings.

LSPI also argues that the Board improperly disregarded the evidence of skepticism, unexpected results, and long-felt need on the ground that although the evidence

showed that LSPI's invention worked better than the prior art, the patents in suit did not claim the degree of improvement. LSPI adds that the Board improperly discounted highly probative evidence of competitors' failures because they occurred after ExtremePower was released to the public. LSPI further argues that the Board improperly disregarded evidence of acquiescence, industry praise, and ExtremePower's commercial success. Lastly, LSPI argues that the Board improperly applied what it refers to as a "knockdown" approach where it weighed the objective indicia against its erroneous *prima facie* factual findings relating to the other three *Graham* factors.

Baker Hughes responds that the Board's findings were supported by substantial evidence and that it did not improperly apply any "knockdown" approach. Baker Hughes further argues that the Board properly considered LSPI's objective indicia evidence before concluding that the evidence was unpersuasive.

We agree with Baker Hughes. The Board found, after a thorough review of all the evidence, that the objective indicia evidence, when weighed with the substantial evidence from the other three *Graham* factors, supported a conclusion that the challenged claims would have been obvious. Moreover, our remand was clearly limited to weighing the objective indicia evidence; it was not an opportunity for LSPI to reargue all aspects of the obviousness inquiry.

The Board found there was no long-felt need, and no failure of others. It accorded little weight to the alleged commercial success, and it found that the stipulated injunction against an industry competitor may have been entered into principally to avoid further litigation rather than out of respect for the validity of the patents. Other assertions of objective indicia were not given persuasive weight in the obviousness analysis.

The Board's analysis was proper and its factual findings concerning objective indicia and application of the

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other three *Graham* factors were supported by substantial evidence. The Board's obviousness analysis of the prior art's disclosures and motivation to combine the prior art with a reasonable expectation of success was consistent with its previous analysis that we found supported by substantial evidence. The Board further complied with our instructions on remand to consider the objective indicia evidence and whether that evidence impacted the obviousness of the asserted claims. See '118 *Patent Decision* at 29 ("Having considered the parties' arguments and evidence, we evaluate all of the evidence together to make a final determination of obviousness."); '249 *Patent, et al. Decision* at 8788 ("[W]e determine that the evidence of long-felt need, failure of others, unexpected results, industry praise, commercial success, copying, and acquiescence, when considered and weighed with the strong and substantial evidence as to the other three *Graham* factors, supports a conclusion that [the challenged claims] would have been obvious."). The Board's findings were supported by substantial evidence. Thus, we affirm the Board's holding that the asserted claims in the patents in suit would have been obvious over the prior art.

#### CONCLUSION

We have considered LSPT's remaining arguments but find them unpersuasive. For the foregoing reasons, the decision of the Board is *affirmed*.

**AFFIRMED**