

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VOLKSWAGEN GROUP OF AMERICA, INC. and
PORSCHE CARS NORTH AMERICA, INC.,
Petitioner

v.

YECHEZKAL EVAN SPERO,
Patent Owner

Case IPR2023-00318¹
U.S. Patent No. 9,955,551

**PETITIONER VOLKSWAGEN GROUP OF AMERICA, INC.’S MOTION
TO EXCLUDE EVIDENCE UNDER 37 C.F.R. § 42.64(c)**

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¹ Porsche Cars North America, Inc., which filed a petition in IPR2023-01296, has been joined as a party to this proceeding.

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I. INTRODUCTION

Volkswagen Group of America, Inc. (“Petitioner”) and Yechezkal Evan Spero (“Patent Owner”) agreed on the definition of a person of ordinary skill in the art (“POSA”). And the agreed-upon definition has not changed. Patent Owner nonetheless relies on declarations from a purported expert, Dr. Matthew Turk, who does not meet that agreed-upon definition. Petitioner accordingly moves to exclude EX2001 and EX2024, pursuant to 37 C.F.R. §§ 42.62 and 42.64(c) and in accordance with DUE DATE 5 of the Scheduling Order (Paper 12). Petitioner timely objected to evidence through written Objections to Evidence filed on July 25, 2023 (Paper 13) and September 20, 2023 (Paper 17).

Board regulations and the Federal Rules of Evidence (FRE) govern the admissibility of evidence in *inter partes* review proceedings, 37 C.F.R. § 42.62. Because the challenged exhibits improperly offer opinions from the perspective of a POSA by a declarant who himself is *not a POSA*, Federal Circuit precedent dictates that the Board should exclude the objected-to exhibits in their entirety.

II. IDENTIFICATION OF OBJECTIONS (37 C.F.R. § 42.64(C))

A. EX2001 – Declaration of Matthew A. Turk, Ph.D.

Petitioner timely objected to EX2001 on July 25, 2023, under FRE 401, 402, 403, 702, and 703. Paper 13, 1-2.

B. EX2024 – Supplemental Declaration of Matthew A. Turk, Ph.D.

Petitioner timely objected to EX2024 on September 20, 2023, under FRE

401, 402, 403, 702, and 703. Paper 17, 4-5.

III. ARGUMENT

The Board should exclude Dr. Turk’s declarations because he is not a POSA—under the agreed-upon definition of both parties and their declarants—and therefore he cannot serve as an expert regarding any patent issues viewed from the perspective of a POSA. Petitioner bears the burden here. 37 C.F.R. § 42.20(c). But, as to Dr. Turk’s declarations, Patent Owner must establish by a preponderance of the evidence that Dr. Turk meets the standard of FRE 702. *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 592 n.10 (1993). Thus, to succeed on this Motion regarding Dr. Turk’s declarations, Petitioner must demonstrate that Patent Owner fails to meet its burden to establish Dr. Turk as a POSA under the parties’ agreed-upon definition. Petitioner demonstrates this below, so the Board should exclude Dr. Turk’s declarations.

A. All Evidence from Non-POSA Witnesses on Patent Issues Is Inadmissible.

“Patent cases, like all other cases, are governed by Rule 702.” *Sundance, Inc. v. DeMonte Fabricating Ltd.*, 550 F.3d 1356, 1361 (Fed. Cir. 2008). Rule 702 requires experts who offer evidence on issues “from the perspective of [a POSA]” to “qualif[y]” as a POSA themselves. *Id.* at 1363; *Kyocera Senco Indus. Tools Inc. v. Int’l Trade Comm’n*, 22 F.4th 1369, 1377 (Fed. Cir. 2022) (“[T]o be qualified to offer expert testimony on issues from the vantage point of an ordinarily skilled

artisan in a patent case, an expert must at a minimum possess ordinary skill in the art.”). This requirement extends equally to “ultimate conclusions” on issues like claim construction and validity and to any “underlying technical” determinations. *HVLPO2, LLC v. Oxygen Frog, LLC*, 949 F.3d 685, 689 (Fed. Cir. 2020); *Sundance, Inc.*, 550 F.3d at 1361 & n.3.

Evidence from an improperly proffered, unqualified expert—one that fails Rule 702’s standard—is irrelevant and, therefore, inadmissible. FRE 402; *see Daubert*, 509 U.S. at 587–96. This bar on admissibility applies to all of the witness’s “affidavits, transcripts of depositions, documents, and things.” 37 C.F.R. § 42.63(a). And since evidence from unqualified experts is “neither relevant nor reliable,” it is an abuse of discretion to admit it to the record. *Kyocera*, 22 F.4th at 1376–77.

B. Dr. Turk Is Not a POSA, so His Declarations Must Be Excluded.

Dr. Turk is not a qualified expert because he is not a POSA. *Infra* Section III.B.1. As a result, all Dr. Turk’s opinions offered from the perspective of a POSA in his declarations are inadmissible. *Infra* Section III.B.2.

1. Dr. Turk Is Not a POSA.

Dr. Turk lacks “at least 2 years of industry experience in the area of automotive lighting and lighting-control systems.” Pet., 7; DI, 7-8; POR, 9. This experience is critical to the POSA definition because the claims are directed to

adaptive motor vehicle headlamps with LED light sources. Dr. Turk's dearth of foundational knowledge of common terms and concepts in the area of "automotive lighting and lighting-control systems" further confirms his missing industry experience.

a. Dr. Turk Lacks Two Years of Experience in Automotive Lighting and Lighting-Control Systems.

The requirement that a POSA in this proceeding have at least two years of industry experience in automotive lighting and lighting-control systems is *not* solely proffered by Petitioner. The Board explained that, "[t]o the extent either party believes a difference between the two proposed definitions affects this proceeding, that party should explain how in the instituted trial." DI, 8. In the *very next paper*, Patent Owner had the opportunity to contest the POSA definition in its Response, but chose not to. Quite the opposite, Patent Owner expressly stated that it "*d[id]* not dispute Petitioner's proposed level of ordinary skill," citing the Petition at page 6.² POR, 9 (emphasis added); *see also* EX1053, 23:7–19 (Dr. Turk responding "[y]es, I do" when asked if he accepts Petitioner's level of ordinary skill). The Petition reads:

² Patent Owner's citation to page six of the Petition is incorrect—the Petition discusses the level of skill on page seven.

A POSA at the time of the alleged invention would have had a bachelor's degree (B.S.) in mechanical engineering, electrical engineering, optical engineering, applied physics, or an equivalent field, as well as at least 2 years of industry experience in the area of automotive lighting and lighting-control systems. EX1003, ¶ 67.

Pet., 7; Pet. Reply, 1-2 (quoting Pet., 7). This paragraph in the Petition tracks Petitioner's expert Dr. Jiao's POSA definition almost word-for-word. EX1003, ¶¶44, 67. Dr. Jiao's declaration also remarks that "a higher level of education ... *might* make up for less experience," just as a higher level of requisite experience "*might* make up" for less than a bachelor's degree in the above-listed technical fields. *Id.*, ¶45 (emphasis added). Dr. Jiao's statements do not support, however, Patent Owner's attempt (Sur-Reply, 1-3) to shoehorn any individual with any advanced degree in the listed technical fields—regardless of actual technical focus—into the POSA definition. For example, someone with a Ph.D. in electrical engineering whose dissertation was about 5G technology or semiconductor fabrication would not, without more, qualify as a POSA here.

The record here shows that Dr. Turk does not have two years of industry experience nor any advanced degree where his focus of education was "in the area of automotive lighting and lighting-control systems." Patent Owner cannot, despite its obfuscation efforts, avoid this fact. Like the hypothetical 5G or semiconductor expert, Dr. Turk does have a Ph.D. focused on his area of expertise: computer

vision and facial recognition. EX2001, ¶¶7, 10, 12, 15-16; EX2024, ¶¶9–10, 12, 14, 17-20; EX2002, 4 (dissertation titled “Interactive-Time Vision: Face Recognition as a Visual Behavior,” thesis titled “A Fine Motion Planning Algorithm for Robots,” BSEE project in “computer vision”). But this does *not* satisfy (or replace) the agreed-upon industry experience in “automotive lighting and lighting-control systems.” Pet., 7.

Patent Owner’s belated attempts to rehabilitate Dr. Turk’s purported expertise in its Sur-Reply only further supports that Dr. Turk lacks the necessary industry experience in automotive lighting and lighting-control systems. Patent Owner alleges that Dr. Turk meets the POSA requirements because of his purported “three years of experience designing an autonomous vehicle system where vehicle lighting and lighting control systems played ‘an important part.’” Sur-Reply, 1. Attempting to show Dr. Turk meets this requirement, Patent Owner belatedly points to Dr. Turk’s deposition testimony in the related ’029 patent IPR proceeding, IPR2022-01586, regarding his work for an autonomous vehicle project at Martin Marietta. *Id.* (citing EX1054, 54:7-8).

The problem for Patent Owner is that Dr. Turk had no significant role in the “lighting control systems” portion of the project (if there even was one), as Patent Owner’s own citations show. *See* Sur-Reply, 1 (citing EX1054, 54:7-8). At another point in his deposition in the related ’029 patent, Dr. Turk claims that he

“personally work[ed] on the illumination portion of that project” “at times,” but he—the alleged expert in such illumination—remarkably did not “remember too much detail about it.” EX1054, 54:9-18. Dr. Turk’s CV notably does not even hint at any alleged participation on the “illumination portion of that project;” instead, his CV describes his role in that Martin Marietta project as “research[ing] ... vision algorithm development” for the autonomous vehicle. EX2002, 3-4. And Patent Owner acknowledges that Dr. Turk’s experience there was in “designing an autonomous vehicle system,” Sur-Reply, 1, *not* automotive lighting or lighting-control systems for that vehicle.

Patent Owner’s attempt to stretch Dr. Turk’s work on the vision algorithm development for an autonomous vehicle into the definitional industry experience required of a POSA does not impart knowledge qualifying him to opine on such experience, especially when Dr. Turk admittedly cannot “remember too much detail” about the illumination portion of the project. EX1054, 54:9-18; EX1052, ¶¶41-49 (citing EX1063 and EX1064 showing that the ALV used a “standard chassis” and its “system architecture” does not include any “automotive lighting or lighting control”).

Tellingly, Dr. Turk also admitted that he has no experience in the field of automotive lighting, lighting control, general lighting, light measurements, and lighting device development, design, process, testing, standard, and regulation

compliance. EX1054, 52:18-53:1. He never worked for a vehicle headlamp company, never worked for an LED (or any other light source) company or for a general lighting company, never designed a vehicle forward lighting system, and has no patents, awards, or papers for any vehicle forward lighting. *Id.*, 54:24-56:12. The record demonstrates that Dr. Turk lacks the knowledge that a POSA with two years of industry experience in the area of automotive lighting and lighting-control systems would have, so his declarations should be excluded.

b. Dr. Turk Does Not Know Common Automotive Lighting Terms and Concepts—Including Those Specifically Related to the '551 Patent.

Dr. Turk's testimony demonstrates his lack of knowledge of common terms and concepts in the art, including features and concepts relevant to the '551 patent claims challenged here.

For example, when asked during the deposition for this proceeding whether a headlamp needs directional light sources to provide “adaptive headlamp functionality” (a term used by Dr. Turk in his second declaration here, EX2024, ¶35), Dr. Turk responded “I’m not sure if I’ve thought about this as a general question.” EX1053, 31:23-32:2. Dr. Turk was also asked if a LED die is a directional light source, to which he responded “I hadn’t really thought about it.” *Id.*, 32:3-13. Puzzlingly, instead of personally conducting a “test” he described, the work was outsourced to some unknown person, Dr. Turk was “not at th[e]

location” of the supposed test he purportedly “supervised,” he did not believe he even spoke with the person who executed the test, and he did not consult any standards or regulations when formulating the test. *Id.*, 103:7-110:22.

Indeed, Dr. Turk appeared to be unfamiliar with any standards for vehicle headlamp glare, despite citing to the Federal Motor Vehicle Safety Standards (FMVSS) in his declaration. EX2024, ¶26.

Q. Do you know, in the context of automotive headlamps, if there is any standard that regulates the level of permissible glare to oncoming vehicles?

A. I believe there probably are such standards. I don’t know them in detail.

EX1053, 65:22-66:1; *see also* EX1054, 43:6-44:14 (Dr. Turk responding that he was “not sure” if the FMVSS included vehicle lighting requirements); EX1054, 108:3-8 (regarding Dr. Turk’s general lack of knowledge about the FMVSS, a resource he cited in his declaration that a POSA would have been familiar with); EX1052, ¶¶18, 21, 23.

Dr. Turk also had difficulty understanding the technical claim language of the ’551 patent. For example, he equated claim 56’s “reduced intensity” with claim 40’s “decrease intensity,” but when asked if the “decrease intensity” of claim 40 excludes zero intensity, Dr. Turk responded “I’m not sure that I’ve really thought that through” and was unable to definitively answer the question. EX1053, 66:11 -

71:3; EX2024, ¶104 (discussing the reduced intensity of claim 56). Similarly, when asked if two LEDs in a headlamp could be “noncontiguous,” which is language Dr. Turk addressed in claims 65 and 73, Dr. Turk was “not sure” and ultimately avoided answering by stating he “ha[d] no comment on” the question. EX1053, 98:1-99:12; EX2024, ¶¶126-127.

Dr. Turk also admitted that he did not know how to interpret prior art references Karlsson (EX1010) and Beam (EX1005) because he was unfamiliar with common terms of art used in those references. Regarding Karlsson, Dr. Turk “d[id]n’t know” what “a [POSA] would be able to conclude” about which “LEDs” “could be lit in a headlamp.” EX1054, 137:9-138:4. Dr. Turk was also “not too familiar” with the term “digital mirror device” recited in the claims of Beam. *Id.*, 88:6-90:5. In the related ’029 patent IPR proceeding, he could not even interpret *his own declaration’s* use of Beam’s terms. EX1054, 103:7-20; EX1052, ¶24.

Dr. Turk’s *admitted* lack of knowledge about how *a POSA* would measure light intensity in the field is perhaps most illustrative of how Dr. Turk is not a POSA. EX1054, 103:13-25. He initially and incorrectly opined that the intensity of light was measured in perceived brightness, “a human judgment.” *Id.*, 123:2-9. Later, he stated that intensity could be quantified; he just was not sure how. When asked how light intensity could be measured, Dr. Turk responded: “I don’t know in general how I would do it. I suppose I could ... have some light meter with me ...

and measure the reading of the light meter.” *Id.*, 153:7-11; *see id.*, 150:19-153:11.

Still further, Dr. Turk did not know the basic unit of measurement (candelas)—something any POSA would have known. *Id.*, 153:13-18 (“Q. Is there a unit of measurement that you would use for that? A. Yeah, the measurement would be in some units.”); EX1052, ¶15.

Not only does Dr. Turk not know how to quantify light intensity, he also does not know what a POSA would have known or even how a POSA would have found out, responding “I am not sure” when asked how a POSA would determine the “standard methodology” for measuring light, or even what a POSA would do to find out, suggesting that perhaps they could “talk to people who have done it,” but he was “not sure.” EX1054, 154:16-155:15 (objections omitted).

Each of these examples illustrate that, not only does Dr. Turk not meet the definition of a POSA by its express terms, he also lacks basic knowledge about the art. This includes knowledge he would have with *any* experience in automotive lighting and lighting-control, much less the requisite experience of a POSA (or experience required to opine on what a POSA would have understood).

2. Federal Circuit Precedent Dictates That Dr. Turk’s Declarations Must Be Excluded.

Dr. Turk’s “expert testimony on issues from the vantage point of an ordinarily skilled artisan” must be excluded because Dr. Turk does not “possess ordinary skill in the art.” *Kyocera*, 22 F.4th at 1377. The Federal Circuit’s decision

in *Kyocera* illustrates this principle and governs the outcome here.

Kyocera concerned patent claims related to “linear fastener driving tools,” like staple guns and nail guns. *Id.* at 1373. *Kyocera* filed an ITC complaint alleging that Koki’s imported products infringed certain claims of *Kyocera*’s patents. *Id.* at 1372-73. In determining the skill in the art, the Commission adopted Koki’s definition of a POSA, noting that “*Kyocera* chose not to contest, and even seemed to adopt, Koki’s articulation of the ordinary level of skill in the art.” *Id.* at 1375-76. That definition “require[d], at minimum, two years’ experience *designing power nailers*.” *Id.* at 1376 (emphasis added). *Kyocera*’s proffered claim construction and infringement expert, Dr. Pratt, did not meet that definition. While Dr. Pratt did have “advanced degrees in engineering and extensive experience in the design and manufacture of fastener driving tools,” generally, he “lack[ed] experience in power nailer design,” specifically. *Id.* As a result, the Federal Circuit held that Dr. Pratt was not a POSA. *Id.* at 1376-78. Since Dr. Pratt failed to meet the POSA definition, the Federal Circuit found that it was an “abuse[of] discretion” to “admit[] Dr. Pratt’s testimony on *any* issue that is analyzed through the lens of [a POSA].” *Id.* at 1377-78 (emphasis added). The facts here align with *Kyocera*.

Dr. Turk is not a POSA under the parties’ agreed-upon definition, so like Dr. Pratt, his declarations must be excluded. Just like in *Kyocera*, the parties agreed on a POSA definition, and, just like in *Kyocera*, that definition required at least two

years of experience in a particular, relevant field. *Id.* at 1376; Pet., 7; POR, 9. The experience required in *Kyocera* was specific to “power nailer design.” *Kyocera*, 22 F.4th at 1376. The industry experience required here is also specific—it is confined to “automotive lighting and lighting-control systems.” Pet., 7; POR, 9. Dr. Turk undisputedly lacks the required two years of experience in “automotive lighting and lighting-control systems.” *Supra* Section III.B.1.a. The best Patent Owner can point to is Dr. Turk’s general autonomous vehicle system experience. Sur-Reply, 1, 3. But as with Dr. Pratt in *Kyocera*, that does not make him a POSA when the definition specifically calls for experience in “automotive lighting and lighting-control systems.” Pet. 7; POR, 9. That Dr. Turk is not a POSA is even further buttressed by his lack of knowledge about the art. *Supra* Section III.B.1.b; *see also* EX1052, ¶¶10-49 (citing evidence showing Dr. Turk’s lack of knowledge about the art).

Furthermore, Dr. Turk’s education and accolades unrelated to the relevant field do not save him under Patent Owner’s “sliding scale” theory. *See* Sur-Reply, 1 (citing EX1003, ¶45). Dr. Turk received his Ph.D. in “Vision and Modeling,” with a dissertation focused on facial recognition technology, and his Master’s in Engineering thesis related to computerized space configuration for robots—neither are particular to the defined field of automotive lighting and lighting-control systems. EX2002, 4; EX1054, 55:9-15.

Left with unfavorable facts and law, Patent Owner belatedly and improperly attempts to change the POSA definition. Ignoring that it (and Dr. Turk) agreed with Petitioner's POSA definition (*see* Sur-Reply, 1-8 (failing to cite POR, 9); EX1054, 60:19-22), Patent Owner tries to revert to its POPR position in an effort to change the definition and salvage Dr. Turk's testimony from being excluded. Sur-Reply, 2; *see also* POPR, 9.

As an initial matter, “[t]his argument comes too late.” *Intuitive Surgical, Inc. v. P Tech, LLC*, IPR2020-00650, Paper 33, at 33 n.4 (P.T.A.B. Sept. 8, 2021), *aff’d* 2022 WL 17688149, at *4 (Fed. Cir. 2022). “A sur-reply may only respond to arguments raised in the corresponding reply and may not be accompanied by new evidence other than deposition transcripts of the cross-examination of any reply witness.” 37 C.F.R. § 42.23(b). “Patent Owner could have, and should have, raised this [POSA-definition] argument in its Patent Owner Response,” if it was disputed. *Intuitive*, IPR2020-00650, Paper 33, at 33 n.4 (citing 37 C.F.R. § 42.23(b)). Instead, far from “rais[ing]” any “argument” about the POSA standard, *id.*, Patent Owner *agreed* with Petitioner's POSA definition. Petitioner's Reply reflects this agreement. Pet. Reply, 2. Patent Owner has accordingly forfeited any argument about the definition of a POSA. *Finjan, Inc. v. Cisco Sys., Inc.*, 837 F. App'x 799, 809 n.10 (Fed. Cir. 2020) (determining that a sur-reply argument “raised” in the Patent Owner's Preliminary Response but “abandoned” in the Patent Owner

Response was forfeited); Consolidated Trial Practice Guide, p. 52 (citing *In re Nuvasive, Inc.*, 842 F.3d 1376, 1381 (Fed. Cir. 2016) (a patent owner waives an issue presented in its preliminary response if it fails to renew the issue in its response after trial is instituted)). Patent Owner cannot now run from its agreed-upon definition in the face of Dr. Turk's failure to qualify as a POSA.

* * *

Patent Owner cannot demonstrate that Dr. Turk is a POSA. This means Dr. Turk's declarations are not a mere matter of weight; under *Kyocera* and per the standards set by FRE 702 for expert testimony, Dr. Turk's declarations are inadmissible under FRE 402. Accordingly, Petitioner respectfully requests that the Board exclude Dr. Turk's declarations—EX2001 and EX2024—(a) in their entirety, or (b) at the very least, the portions of the declarations that opine from the perspective of a POSA—EX2001, ¶¶6-18 and 23-42 and EX2024, ¶¶25-228.

Respectfully submitted,

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CERTIFICATE OF SERVICE (37 C.F.R. § 42.6(e))

I certify that the above-captioned **PETITIONER VOLKSWAGEN GROUP OF AMERICA, INC.'S MOTION TO EXCLUDE EVIDENCE UNDER 37 C.F.R. § 42.64(c)** was served in its entirety on February 28, 2024, upon the following parties via electronic mail:

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