

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LG ENERGY SOLUTION, LTD.,
Petitioner,

v.

MOLECULAR REBAR DESIGN LLC,
Patent Owner.

Case IPR2024-01005
Patent 9,636,649

PETITIONER'S REPLY TO
PATENT OWNER'S PRELIMINARY RESPONSE

Petitioner's diligence in quickly filing this IPR Petition and the Petition's strong merits outweigh other applicable *Fintiv* factors and favor institution.

Factor 1 is neutral: As Patent Owner acknowledges, the Court in the parallel litigation noted that "refiling [of the motion to stay] shall be permitted within fourteen (14) days following PTAB's institution decision regarding the last of the Asserted Patents to be acted upon the PTAB." MRD-2001, 3. Indeed, in EDTX, motions for stays are routinely granted where all asserted claims are under PTAB review. *See* AGIS Software Dev. LLC v. Google LLC, No. 2:19-cv-361, 2021 WL 465424, at *3 (E.D. Tex. Feb. 9, 2021) ("[W]here the PTAB has instituted IPR proceedings . . . this Court has likewise routinely stayed cases[.]").

Factor 2 is neutral: As Patent Owner acknowledges, the district court trial in EDTX and a Final Written Decision in this IPR proceeding is at best scheduled to occur "at nearly the same time." POPR, 19. Further in view of EDTX's growing backlog of cases and Petitioner's offered stipulation, the potential for conflict between the district court case the instant IPR proceeding is minimal.

Factor 3 favors institution: Patent Owner's assertion that the parties are "*beginning* to commit substantial resources to the parallel proceedings" can be said of any case in which discovery has commenced. POPR, 19 (emphasis added). However, the majority of the discovery the parties have engaged in relates to

Petitioner's motion to transfer the case to the Northern District of California.

Indeed the only deposition that has occurred so far related to this motion to transfer. The parties are still negotiating on the scope of accused products in the case, and have not yet "commit[ted] substantial resources" to merits-based discovery yet. Fact discovery does not close for another eight months—in July 2025. *See* MRD-2002. Petitioner filed its IPR petition in the same week as filing its answer—this case could hardly be in an earlier stage.

Factor 4 favors institution: Patent Owner contends that the Petitioner's stipulation to not seek resolution in the district court of the same grounds presented in this Petition "*does nothing* to narrow the case for the court." POPR, 21 (emphasis added). While a *Sotera*-type stipulation would entirely foreclose the possibility of discretionary denial, a *Sand Revolution*-type stipulation as here nevertheless continues to mitigate concerns of duplicative efforts and weigh against denial. *See Samsung Elecs. v. Staton Techiya, LLC*, IPR2022-00281-13 at 8 (PTAB July 15, 2022). Ultimately, Petitioner's stipulation paired with its great diligence in filing this Petition within mere months of the service of complaint greatly mitigate any potential concerns regarding duplicative efforts between the district court and the Board.

Factor 5 is neutral: As noted in the Petition, parties in the litigation are the same.

Factor 6 favors institution: Patent Owner’s assertion that “Petitioner does not present a compelling invalidity challenge” (POPR, 22) ignores the robust disclosures of the Sun and Farrugia primary references in the Petition’s two advanced obviousness grounds. Indeed, the strength of the cited art belies Patent Owner’s assertions that the Petition did not present a compelling challenge. The disclosures of these references, and the Petition’s explanation of their applicability to the Challenged Claims, provide a compelling case of invalidity that is sufficient to warrant institution.

First, Patent Owner’s argument that the Petitioner’s grounds rest on mere “possibilities and assumptions on how the cited art might be combined” (POPR, 23) disregards the extensive, corroborated explanations provided in the Petition for the applicability of Sun to the Challenged Claims, and for the Farrugia-Narayan combination and its applicability to the Challenged Claims. Patent Owner contends that there is a “lack of disclosure of the recited element of ‘a plurality of oxidized, discrete carbon nanotubes,’” referencing Section II.D. POPR, 23. But the positions advanced in that section reveal Patent Owner’s failure to appreciate why both Sun’s nanotubes and the nanotubes of the Farrugia-Narayan combination are discrete. Patent Owner’s Section II.D reliance on *Exxon* in arguing that Sun’s nanotubes are not discrete because they are “reacted with nanoplatelets to produce a nanofiller” (POPR, 9) ignores that, unlike in *Exxon*, the nature of the nanotubes

remains unchanged even when associated with nanoplatelets. *See* LGES-1004, [0044]; *see* Petition, 12. And as established in the Petition, it is this nanoplatelet association that “force[s] the nanotube bundles into individual tubes,” thereby rendering the nanotubes discrete. LGES-1004, [0044]; *see* Petition, 12. Patent Owner makes a similar error in Section II.D in arguing that Farrugi’s nanotubes, which “react first with a suitable monomer ... and then are polymerized,” are not discrete. POPR, 13. Again, Patent Owner fails to recognize that Farrugia’s nanotubes remain oxidized, discrete nanotubes even with monomer attached thereto. *See* Petition, 52-53, 55.

Furthermore, it is notable that the Petition presents extensive explanation of how the Sun and Farrugia-Narayan grounds meet the limitations of the Challenged Claims, as well as why a POSITA would have been motivated to pursue the Farrugia-Narayan combination. These explanations are richly corroborated by expert testimony and evidentiary support. Patent Owner’s attempts to rebut these robust positions are lacking in expert support or even citation to corroborating evidence, and thus are insufficient.

Second, Patent Owner’s suggestion that the large number of papers and patents “in the area of research and development of carbon nanotubes” should “point[] towards the non-obviousness of the ’649 Patent” (POPR, 23-24) is irrelevant. The claims of the ’649 Patent are not directed generally to carbon

nanotubes, and thus the universe of carbon nanotube publications that may be relevant to the Challenged Claims is surely smaller than the entire body of carbon nanotube literature. Instead, the '649 Patent claims relate to dispersions of particular composition, including additives and nanotubes having specific characteristics. These dispersions are rendered obvious in at least two ways, each of which relies on a small number of those many publications related to carbon nanotubes, as demonstrated in the Petition.

Overall, Patent Owner's assertions that "Petitioner does not present a compelling invalidity challenge" do not withstand scrutiny. POPR, 22. The Petition presents two independent, detailed cases for invalidity of the Challenged Claims, bolstered by extensive argument, expert testimony, and evidentiary support. The strength of these two grounds weighs in favor of institution.

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR §§ 42.6(e)(4)(i) *et seq.* and 42.105(b), the undersigned certifies that on November 8, 2024, a complete and entire copy of this Petitioner's Reply to Patent Owner's Preliminary Response was provided by email, to the Patent Owner, by serving the correspondence address of record as follows:

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