

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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JINKOSOLAR CO., LTD.,  
Petitioner,

v.

FIRST SOLAR, INC.,  
Patent Owner.

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Case IPR2025-01130  
U.S. Patent No. 9,130,074

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**PETITIONER'S OPPOSITION TO PATENT OWNER'S  
REQUEST FOR DISCRETIONARY DENIAL OF INSTITUTION**

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## LIST OF EXHIBITS

| Exhibit | Description                                                                                                                                                                                                                  |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1001    | U.S. Patent No. 9,130,074                                                                                                                                                                                                    |
| 1002    | File History for U.S. Patent No. 9,130,074                                                                                                                                                                                   |
| 1003    | Declaration of Dr. Miltiadis Hatalis                                                                                                                                                                                         |
| 1004    | Certified Translation of Japanese Patent Application Publication No. JP1992245683 (“Tamura”)                                                                                                                                 |
| 1005    | Japanese Patent Application Publication No. JP1992245683                                                                                                                                                                     |
| 1006    | Polysilicon Tunnel Junctions as Alternates to Diffused Junctions (“Borden”)                                                                                                                                                  |
| 1007    | U.S. Patent Application US 2010/0240172 (“Rana”)                                                                                                                                                                             |
| 1008    | U.S. Patent No. 5,057,439 (“Swanson”)                                                                                                                                                                                        |
| 1009    | J.Y. Gan and R.M. Swanson, <i>Polysilicon Emitters for Silicon Concentrator Solar Cells</i> , Stanford Univ. (“Gan”)                                                                                                         |
| 1010    | Young J. Kwark et al., <i>SIPOS Heterojunction Contacts to Silicon</i> , Stanford Elec. Lab., IEDM 742 (1984) (“Kwark”)                                                                                                      |
| 1011    | [omitted]                                                                                                                                                                                                                    |
| 1012    | An Investigation of The Thermal Stability of The Interfacial Oxide in Polycrystalline Silicon Emitter Bipolar Transistors by Comparing Device Results with High-Resolution Electron Microscopy Observations (“Wolstenholme”) |
| 1013    | Structure and Morphology of Polycrystalline Silicon-Single Crystal Silicon Interfaces (“Bravman”)                                                                                                                            |
| 1014    | The Optical Properties of Metallic Aluminum, in <i>Handbook of Optical Constants of Solids</i> (Palik, ed., 1985) (“Smith”)                                                                                                  |
| 1015    | Amorphous/Crystalline Silicon Heterojunction Solar Cells with Intrinsic Buffer Layer (“Froitzheim”)                                                                                                                          |
| 1016    | Antireflective coating for ITO films deposited on glass substrate (“Chiou”)                                                                                                                                                  |
| 1017    | An Approach for the Higher Efficiency in the HIT Cells (“Taguchi”)                                                                                                                                                           |
| 1018    | A high efficiency thin film silicon solar cell and module (“Yamamoto”)                                                                                                                                                       |
| 1019    | Photovoltaic Technology: The Case for Thin-Film Solar Cells (“Shah”)                                                                                                                                                         |
| 1020    | Semiconductor Material and Device Characterization, Third Edition (“Schroder”)                                                                                                                                               |
| 1021    | Amorphous Hydrogenated Silicon, a-Si:H (“Fuhs”)                                                                                                                                                                              |

| <b>Exhibit</b> | <b>Description</b>                                                                                                                                                                                                           |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1022           | Large Grain Polycrystalline Silicon by Low-Temperature Annealing of Low-Pressure Chemical Vapor Deposited Amorphous Silicon Films (“Hatalis”)                                                                                |
| 1023           | Crystalline Silicon Solar Cell, in <i>Clean Electricity From Photovoltaics</i> (Archer, ed., 2001) (“Green”)                                                                                                                 |
| 1024           | Solar Energy Conversion, 2d ed. (Neville, ed., 2001) (“Neville”)                                                                                                                                                             |
| 1025           | Semiconductor Materials and Modelling, in <i>Practical Handbook of Photovoltaics: Fundamentals and Applications</i> (Markvart, ed., 2003) (“Markvart”)                                                                       |
| 1026           | High Efficient Concentrator Silicon Solar Cells, in <i>Practical Handbook of Photovoltaics: Fundamentals and Applications</i> (Markvart, ed., 2003) (“Verlinden”)                                                            |
| 1027           | Silicon for Photovoltaics, in <i>Silicon</i> (Siffert, ed., 2003) (“Muller”)                                                                                                                                                 |
| 1028           | Surface passivation Layers for Multicrystalline Silicon Solar Cells (“Ponce”)                                                                                                                                                |
| 1029           | USPTO, <i>An Open Letter From America’s Innovation Agency</i> (Oct. 17, 2025)                                                                                                                                                |
| 1030           | First Solar Makes The Right Move by Abandoning Its Bet on Silicon Panels, <i>Forbes</i> (July 8, 2016), <a href="https://perma.cc/5Z35-CEYM">https://perma.cc/5Z35-CEYM</a>                                                  |
| 1031           | First Solar Malaysian Production Capacity to Series 5 Assembly (July 5, 2016)                                                                                                                                                |
| 1032           | First Solar Announces Ownership of TOPCon Technology Patents, Undertakes Infringement Investigation, <i>Business Wire</i> (July 19, 2024 8:30 A.M. EDT), <a href="https://perma.cc/3KTN-MQQC">https://perma.cc/3KTN-MQQC</a> |
| 1033           | Patent Assignment for U.S. Patent No. 9,130,074 (Feb. 24, 2025)                                                                                                                                                              |
| 1034           | Donald Trump Post, Truth Details (Aug. 20, 2025), <a href="https://truthsocial.com/@realDonaldTrump/posts/115061417084982814">https://truthsocial.com/@realDonaldTrump/posts/115061417084982814</a>                          |
| 1035           | Nichola Groom, <i>A Timeline of Trump’s Moves to Dismantle the US Wind and Solar Energy Industries</i> , <i>Reuters</i> (Aug. 26, 2025), <a href="https://perma.cc/R38X-NPQF">https://perma.cc/R38X-NPQF</a>                 |
| 1036           | Jake Spring, <i>The Next Phase of Trump’s Fight Against Solar Energy Has Begun</i> , <i>Wash. Post</i> (Oct. 12, 2025)                                                                                                       |

## I. Introduction

Patent Owner First Solar, Inc. (“Patent Owner” or “First Solar”) cannot establish that the Petition should be denied under the Office’s typical discretionary considerations. Importantly, First Solar admits that “trial is not scheduled to occur until after the projected deadline for final written decision,” that the “litigation is at a relatively early stage,” and that the parties have only “begun to expend resources” on it. Paper 7 (“Req.”), 20.<sup>1</sup> First Solar considers these facts “**neutral**,” *id.* (emphasis in original), but in fact they “counsel against discretionary denial,” *e.g.*, *Nintendo Co. v. Resonant Systems, Inc.*, IPR2025-00680, Paper 18 at 2 (Director Aug. 14, 2025) (referring petition to the Board in a similar situation). As a result, First Solar

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<sup>1</sup> Patent Owner’s Request exceeds the 20-page limit. The Request asserts that it contains “fewer than the 14,000 words allowed under 37 C.F.R. § 42.24 and the Director’s Memorandum regarding Interim Processes for PTAB Workload Management, dated March 26, 2025.” Req., “Certification Under 37 C.F.R. § 42.24.” But that word limit has been superseded: “Effective for patent owners’ discretionary denial requests due on or after September 1, 2025, a patent owner’s discretionary denial brief is limited to 20 pages . . . .” <https://www.uspto.gov/patents/ptab/interim-director-discretionary-process> (last visited Oct. 28, 2025).

resorts to misrepresenting its own history of abandonment of the relevant underlying technology in favor of its own manifestly inferior technology.

More than a decade ago, First Solar bought TetraSun, Inc. (“TetraSun”) and killed its products, destroying approximately \$100 million in value. TetraSun, its products, and its assets (including the patent at issue in this proceeding) were buried. Faced with competition from superior technology, First Solar exhumed one of TetraSun’s patents, U.S. Patent No. 9,130,074 (the “’074 patent”), acquiring it from TetraSun in February 2025, and asserting it against Petitioner JinkoSolar Co., Ltd. (“Petitioner” or “Jinko”) just five days after the acquisition. *See* Ex.1033. On these facts, it makes no sense to assert, as First Solar does, that the industry “ha[s] long been aware of First Solar’s development and ownership in TOPCon technology.”<sup>2</sup>

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<sup>2</sup> First Solar refers to TetraSun’s technology as “TOPCon technology,” but no one else does. An article cited by First Solar explains that “TetraSun’s patent portfolio” relates to a “TetraCell” technology. Ex.2014, 343. The article also states that “the term TOPCon (tunnel oxide passivated contacts) was coined” to describe the “approach of Fraunhofer ISE,” not TetraSun. *Id.*; *see also* Ex.2004, 44 (“Fraunhofer ISE’s Tunnel Oxide Passivated Contact (TOPCon) cell is other technology that has recently gained some attention.”).

To the contrary, neither First Solar nor the solar industry could possibly have had any settled expectations concerning technology First Solar chose not to use.

First Solar also argues that the Petition improperly relies on expert testimony, but the memorandum on which First Solar bases its argument does not even apply to the Petition here, as First Solar admits. Jinko's use of expert testimony nevertheless is consistent with the memorandum, even if it were to apply. The Office should not deny institution of this IPR, as First Solar suggests.

**II. By Rule, Only The Board Has The Authority To Institute Or Deny Institution Of This *Inter Partes* Review.**

The Director issued an "Open Letter" and a memorandum to the Board judges dated October 17, 2025, asserting that he "will determine whether to institute trials in all IPR and PGR proceedings." Ex.1029, 4. But the Director previously delegated the authority to institute IPRs exclusively to the Board by rule. 37 C.F.R. § 42.4(a) ("The Board institutes the trial on behalf of the Director."). This rule "specifically delegates the determination to institute a trial to the Board." *Rules of Practice for Trials Before the Patent Trial and Appeal Board and Judicial Review of Patent Trial and Appeal Board Decisions*, 77 Fed. Reg. 48,612, 48,616 (Aug. 14, 2012). The Office has not even begun the process of amending or rescinding the rule. The Open Letter asserts that the rule's delegation "is non-exclusive," but neither the rule nor the Federal Register notice can be read that way. Ex.1029, 1. The rule "specifically delegates . . . to the Board" the authority to institute an IPR "on behalf of the

Director” (77 Fed. Reg. at 48,616; 37 C.F.R. § 42.4(a)), without exclusion or indication that the Director retains separate “full and concurrent authority” (Ex.1029, 1).

In short, the rule remains in force, notwithstanding the Open Letter and the memorandum. Only the Board has the authority “to determine whether to institute trials in all IPR and PGR proceedings,” Ex.1029, 4, and it should not grant First Solar’s request for discretionary denial of this IPR.

### **III. The Co-pending Litigation’s Early Stage Counsels Against Discretionary Denial.**

First Solar admits that the Board’s final written decision will be due in January 2027, while the district court has set a trial date more than one year later, in February 2028. Req., 20. Issuance of a final written decision “before a district court trial occurs,” even if only by a few weeks, “reduc[es] the concern of inconsistent outcomes or significant duplication of efforts.” *Apple Inc. v. Apex Beam Techs. LLC*, IPR2025-00896, *et al.*, Paper 10 at 2 (Director Sep. 3, 2025); *see also, e.g., TankLogix, LLC v. SitePro, Inc.*, IPR2025-00647, *et al.*, Paper 10 at 2 (Director July 31, 2025). The additional year between the final written decision and the trial date here reduces those concerns even further.

Moreover, the parties have not engaged in significant effort in the district court proceeding, and likely will not do so before the institution decision. The pleadings may be amended until January 16, 2026, just two weeks before the

institution decision will be due. Ex.2020, 1. Claim construction will not start until the middle of next year, after the Patent Owner Response is likely to be due, and fact discovery will not close until around the expected date of the final written decision.

*Id.*

Accordingly, the status of the co-pending litigation is not a neutral factor, Req., 20; in fact, it “counsel[s] against discretionary denial.” *Nintendo*, Paper 18 at 2 (“It is likely that a final written decision will issue before the district court trial occurs, reducing the concern of inconsistent outcomes or significant duplication of efforts resulting from two proceedings operating in parallel. In addition, there has not been significant investment by the parties in the parallel proceeding. These considerations counsel against discretionary denial.”) (citation modified). Here, the IPR is significantly ahead of the district court proceeding, and it will remain that way.

#### **IV. First Solar Abandoned The Patented Technology And Therefore Cannot Claim “Settled Expectations” In The Patent.**

First Solar acquired TetraSun in 2013,<sup>3</sup> “as a hedge against the competitiveness of [First Solar’s] proprietary thin film Cadmium Telluride (Cd-Te)

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<sup>3</sup> Although even the public record refutes First Solar’s contention that there are settled expectations regarding this technology, Petitioner notes that it is not in a

technology.” Ex.1030, 1. Shortly after the ‘074 patent issued, First Solar then “ma[de] the right move by abandoning its bet on silicon panels” using the TetraSun technology, according to *Forbes*. *Id.*

In short, First Solar chose its own Cd-Te technology over TetraSun’s Si technology, and abandoned the latter, as “that hedge [was] no longer needed.” Ex.1031, 1. It was praised in the marketplace for doing so: “Overall, we believe the move to cease production of silicon panels should allow First Solar to devote its resources entirely to its Cd-Te technology, which has been showing a lot of promise,

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position to provide evidence regarding TetraSun’s use of the technology or the ‘074 patent. The Office’s discretionary denial process does not provide for discovery of such information in patent owners’ control, much less discovery of information in control of non-parties like TetraSun. Petitioner respectfully submits that the burden of establishing what patent owners (or their predecessors-in-interest) have or have not done should fall on patent owners, not petitioners, despite the Office’s suggestions to the contrary. *See, e.g., JinkoSolar Co. Ltd. v. Longi Green Energy Technology Co. Ltd.*, IPR2025-00859, Paper 10 at 2 (Director Sept. 3, 2025). Placing such a burden on patent owners “makes sense” because they are both (1) the parties seeking relief and (2) in a better position to access relevant evidence. *Worlds Inc. v. Bungie, Inc.*, 903 F.3d 1237, 1242-43 (Fed. Cir. 2018).

rather than getting distracted by a technology that doesn't really offer it a unique advantage over other silicon manufacturers." Ex.1030, 2. And First Solar abandoned the technology even though doing so cost First Solar approximately \$100 million. *Id.*, 1 ("The firm noted that it will take a one time non-cash charge of between \$90 million to \$110 million this year in this regard . . . ."); *see also* Ex.1031, 1. This was not a situation where First Solar merely "chose to focus on" Cd-Te technology, Req. 9; it abandoned TetraSun's technology at a cost of approximately 2% of its entire market capitalization during a major restructuring of the company.

The Director has noted that a patent owner's lack of use of the patent or its technology can undermine a claim of settled expectations regarding the patent. *Intel Corp. v. Proxense LLC*, IPR2025-00327, -00328, and -00329, Paper 12 at 2-3 (Director June 26, 2025). First Solar's choice to abandon TetraSun's technology, especially while touting the abandonment as a good business decision, should eviscerate any settled expectations argument. *Cf.* 35 U.S.C. § 102(g) (pre-AIA) (providing that a subsequent inventor was not barred from a patent if the first inventor "abandoned, suppressed, or concealed" the invention).

First Solar argues that its "development and ownership in TOPCon technology" "has been widely publicized since 2013." Req., 7, 9. Not so. First Solar relies primarily on articles published during the short period before it abandoned TetraSun's technology in 2016, and exclusively on articles that do not use the term

“TOPCon” when discussing the technology TetraSun developed before it was acquired. *See* Req., 7-9. *First*, First Solar cites articles announcing its acquisition of TetraSun in 2013 and touting *TetraSun’s* technology at that time. Req., 7-8. *Second*, First Solar relies on a brief in an ITC investigation involving a different “non-TOPCon” technology” (Req., 8), stating only that “First Solar employees appear now to be involved in developing [relevant] technology, given its April 2013 acquisition of TetraSun” (Ex.2010, 31). This merely asserts an erroneous assumption that First Solar would develop TetraSun’s technology (TOPCon or not), rather than abandon it. *Third*, an article (published shortly before First Solar abandoned TetraSun’s technology) notes that Fraunhofer’s “TOPCon” technology “has recently gained some attention” and that two other companies (TetraSun and Silevo) “have developed” similar technologies, but says nothing about First Solar. Ex.2004, 44. *Fourth*, the only article published after First Solar abandoned TetraSun’s technology evaluated what “TetraSun’s patent portfolio suggests” regarding its “TetraCell architecture.” Ex. 2014, 343. Thus, First Solar has not shown that it had anything to do with developing the relevant TetraSun technology, much less TOPCon technology.

First Solar’s argument that Jinko “was likely aware of the ’074 patent” likewise does not support its settled expectations argument. Req., 10. There is no evidence of Jinko’s awareness of the ’074 patent itself before it received a letter

alleging infringement on September 26, 2024. First Solar points only to evidence that, “later than 2020,” foreign and U.S. patent applications filed by TetraSun were cited during prosecution of Jinko’s foreign and U.S. patent applications, respectively. *Id.* But neither of those applications matured into the ’074 patent.

Moreover, First Solar says nothing connecting the TetraSun foreign patent application’s technology to the ’074 patent’s technology aside from “Appendix A” to its brief. This Appendix should be disregarded because it is improperly incorporated by reference under 37 C.F.R. § 42.6(a)(3) in a brief that already exceeds the 20-page limit.<sup>4</sup> Additionally, the fact that the TetraSun U.S. patent

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<sup>4</sup> First Solar refers to “TetraSun patent CN104952943A,” but that document is a Chinese patent application. Req., 10. CN104952943B is the Chinese patent that issued from it, and the claims in the issued Chinese patent and the Chinese patent application are very different. For example, the issued patent requires “providing an amorphous silicon-containing compound on the upper surface of the substrate, the compound comprising an oxygen dopant and a conductive dopant,” and those dopants in turn must be affected differently by the claimed heat treatment (“heat treating the amorphous silicon-containing compound to at least partially diffuse the oxygen dopant into the upper surface of the substrate to form an oxide layer over the substrate, the oxide layer defining an interface passivation layer, the thermal

application is a divisional of the application that became the '074 patent shows that the two applications involve “independent and distinct inventions.” 35 U.S.C. § 121. At most, therefore, Jinko has been aware of TetraSun patent documents claiming different inventions from the invention claimed in the '074 patent, and TetraSun has known about those documents for less than six years. They cannot support a finding of settled expectations in the '074 patent.

Finally, First Solar’s own actions demonstrate that it lacked settled expectations in the '074 patent. If First Solar were correct that “[t]here can be no reasonable dispute that participants in the solar industry . . . have long been aware” of the '074 patent (Req., 9), there would have been no reason for First Solar to issue a press release on July 19, 2024, to (erroneously) “announce[] its ownership of patents [allegedly] related to the manufacturing of Tunnel Oxide Passivated Contact

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treatment diffuses conductive dopants in the passivation film through the interfacial passivation layer”). CN104952943B, Claims 1, 12, <https://patents.google.com/patent/CN104952943B/en> (last visited Oct. 28, 2025).

These limitations were not included in the application’s claims. To the extent Jinko had a duty to investigate TetraSun’s Chinese patent application, it reasonably could have concluded that the limitations added during the prosecution in China were requirements of TetraSun’s invention.

(‘TOPCon’) crystalline-silicon (‘c-Si’) photovoltaic (‘PV’) solar cells.” Ex.1032, 2. Even this press release was premature, as First Solar did not acquire ownership of the relevant patents until February 20, 2025, just five days before it filed suit. Ex.1033.

In short, First Solar abandoned the relevant TetraSun technology in favor of its preferred technology until others developed designs superior to First Solar’s, which are often called TOPCon because of their similarity to Fraunhofer’s technology. Only then did First Solar take notice of TetraSun’s patent portfolio and announce its existence on July 19, 2024, claiming it covered TOPCon technology. Even so, First Solar did not acquire the ‘074 patent until February 20, 2025. These are not the actions of a company that has had settled expectations regarding the ‘074 patent for anywhere near six years.

## **V. First Solar’s Assertions Regarding National Security And Economic Interests Are Baseless.**

First Solar has failed in the marketplace and therefore resorts to insinuations that its, but not Jinko’s, technology ought to be protected by the U.S. government. Without citation to anything, much less pertinent evidence, First Solar speculates: “With the help of the Chinese government, JinkoSolar illegally produces and exports the groundbreaking TOPCon technology that TetraSun patented and First Solar owns.” Req., 12; *see also id.*, 1 (asserting, without citation, that “the Petition was brought by a foreign (Chinese) company backed by a foreign adversary (China)”).

The public record contradicts First Solar's unsupported assertions: Jinko's leadership, ownership structure, and major business operations are fully disclosed and verifiable through its regulatory filings. See <https://ir.jinkosolar.com/sec-filings> (last visited Oct. 28, 2025). Those filings make clear that Jinko is an independent, market-driven, and publicly-traded entity governed by its Board of Directors and executive leadership. The Chinese government has never held any ownership interest, exercised control, or influenced Jinko's strategic or operational decision-making. And Jinko maintains robust internal governance protocols, including rigorous due diligence procedures and conflict-of-interest safeguards, to ensure its independence and adherence to international compliance standards. First Solar's baseless and improper attempts to suggest that Jinko is some sort of malign foreign actor should be disregarded.

First Solar also attempts to wrap itself in the American flag, urging discretionary denial because it is “exactly the sort of company” to represent “the national interests of the United States and its domestic industry.” Req., 13. Not so. The only support First Solar provides for this assertion is quotations from policy documents broadly addressing the importance of intellectual property rights generally, not directed at First Solar or Jinko, or to the use of solar technology. See Req., 11-12. First Solar's argument is therefore based solely on an assumption that promoting the manufacture of solar panels is actually in the national interest. While

Jinko does not dispute that solar power is an important component of the world's energy future, First Solar's assumption appears to be contrary to the Trump Administration's policy to discourage investment in, and U.S. government support of, the solar industry at this time.

President Trump recently expressed his view that solar power is "THE SCAM OF THE CENTURY!" and that, when it comes to approval of "farmer destroying Solar," "[t]he days of stupidity are over in the USA!!!" Ex.1034. Similarly, on July 7, 2025, President Trump signed an Executive Order declaring: "For too long, the Federal Government has forced American taxpayers to subsidize expensive and unreliable energy sources like wind and solar. . . . Ending the massive cost of taxpayer handouts to unreliable energy sources is vital to energy dominance, national security, economic growth, and the fiscal health of the Nation." Exec. Order No. 14315, 90 Fed. Reg. 30,821 (July 7, 2025).

The Trump Administration has taken several policy actions consistent with this stated policy. For example, on July 4, 2025, President Trump signed into law the One Big Beautiful Bill Act, which ended subsidies for wind and solar energy projects years earlier than originally planned. Ex.1035, 2. On July 17, the Interior Department announced new layers of review for solar and wind projects on federal lands. Ex.1035, 3. On August 7, the U.S. Environmental Protection Agency said it would end a \$7 billion grant program that sought to expand solar energy to low-

income communities. *Id.* On August 15, the Treasury Department unveiled rules that make it harder for wind and solar projects to claim tax credits. *Id.* On August 18, the Agriculture Department announced it would no longer support wind and solar projects on productive farmland, and it said it would heighten scrutiny of solar and wind projects the next day. *Id.* Most recently, Administration officials canceled \$7.6 billion in clean energy funding, including for solar projects to connect to the grid, on top of \$27 billion in grants they are already trying to claw back. Ex.1036, 2.

First Solar never explains how discretionary denial would be consistent with the current Administration’s view of “the interest of national security, the economy, or the public” generally. Nor do First Solar’s arguments even attempt to address the specific methods of fabricating solar cells claimed in the ’074 patent, as required by *Taiwan Semiconductor Manufacturing Co. v. Marlin Semiconductor Ltd.*, IPR2025-00847, *et al.*, Paper 11 at 3 (Director Sep. 3, 2025). Accordingly, First Solar’s arguments should be rejected.

## **VI. The Petition’s Reliance On Expert Testimony Is Proper.**

First Solar also argues that the Petition improperly relies on expert testimony to “fill evidentiary gaps.” Req., 13. But expert testimony is evidence, and First Solar concedes that the memorandum on which it bases this argument “technically” does not apply to the Petition in this IPR, which was filed before both the September 1, 2025, effective date of the memorandum and the July 31, 2025, issuance of the

memorandum itself. *Id.*, 14 n.2; see Coke Morgan Stewart, *Enforcement and Non-waiver of 37 C.F.R. § 42.104(b)(4) and Permissible Uses of General Knowledge in Inter Partes Reviews* (“General Knowledge Memo”), 3 (July 31, 2025)), <https://perma.cc/2A7J-PT7Z> (“This Memorandum will apply to any petition for IPR filed on or after September 1, 2025.”).

Even if the memorandum applied to this petition, First Solar’s argument would still fail. What the Office actually now prohibits is use of expert testimony “to supply a missing claim limitation,” as First Solar also concedes. Req., 14 (quoting General Knowledge Memo, 1). The Petition does not use expert testimony in this impermissible way. Instead, the Petition appropriately relies on the disclosures of the prior art for each limitation, using expert testimony only to “demonstrate the knowledge of a person having ordinary skill in the art” and explain how that person would understand those disclosures. General Knowledge Memo, 1.

The Petition relies on Dr. Hatalis’ testimony to explain basic electrical concepts known to a POSITA (and even many unskilled in the art). For example, “reducing the resistance” of a circuit will improve charge carrier flow. Pet. 27. Electrons must actually reach an electrode to contribute to the charge carrier (electron) flow between a substrate and the electrode. *Id.*, 28. An antireflective layer is used to reduce light lost due to reflection (and, if there could be any doubt about this tautology, citing the Neville and Markvart prior art references that “explain that

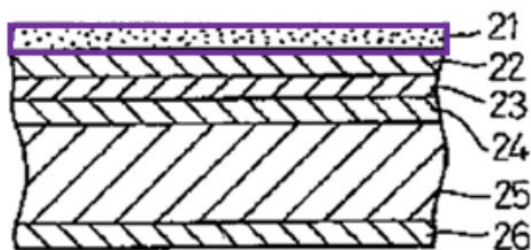
it was well known”). *Id.*, 95. Aluminum “functions as a good internal mirror.” *Id.*, 57 (citing the Smith prior art reference). Other metals likewise can “serve[] as an internal mirror” and therefore are used as electrodes “as a typical industrial standard practice.” *Id.* 32-33 (citing the Yamamoto reference). This use of expert testimony is appropriate.

First Solar also accuses Jinko of using “a doctored diagram” that is “fictional.” Req., 18-19. But, as Dr. Hatalis explains, his “Annotated FIG.3” is a cross-section of the solar cell, like Figure 3 of Tamura, but it is taken in a different direction relative to the fingers of the comb in Tamura’s solar cell:

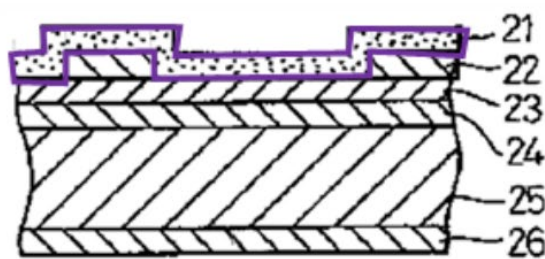
[A] POSITA would understand that in Tamura, the cross-section as depicted in FIG. 3 is drawn along a direction that is parallel to one of the fingers of the comb. A POSITA would also understand that if the cross-section is drawn along a direction perpendicular to the fingers of the comb, it will appear as shown in the annotated Figure 3, as shown below.

Ex.1003, ¶ 133.

FIG. 3



Annotated FIG. 3



Tamura, FIG. 3 (annotated, left), Tamura, FIG. 3 (annotated, right).

*Id.* It is clear from context that “Annotated FIG. 3” is a modified version of Tamura Figure 3 intended to illustrate how a POSITA would understand the cross-section would appear when drawn along a different direction of Tamura’s solar cell, not a “doctored” or “fictional” solar cell. In any event, any factual dispute about what Tamura teaches a POSITA should be considered on the merits, not serve as a basis for discretionary denial.

## VII. Conclusion

The Office should not exercise the discretion to deny the Petition in this *inter partes* review.

Date: October 30, 2025

Respectfully submitted,

By: /Scott C. Weidenfeller/

Scott C. Weidenfeller  
Registration No.: 54,531  
COVINGTON & BURLING LLP  
One CityCenter, 850 Tenth Street, NW  
Washington, DC 20001-4956  
Telephone: (202) 662-5923  
Facsimile: (202) 778-5923

*Counsel for Petitioner*

## **CERTIFICATE OF SERVICE**

Pursuant to 37 C.F.R. § 42.6, I hereby certify that the foregoing Petitioner's Opposition to Patent Owner's Request for Discretionary Denial of Institution was served by electronic mail today on the following counsel of record for Patent Owner:

sgoswami@cravath.com  
khummel@cravath.com  
dbunton@cravath.com

Date: October 30, 2025

/Scott C. Weidenfeller/

Scott C. Weidenfeller

Registration No. 54,531