

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SEG MANUFACTURING INC., NEW ENERGY IMPORTS INC.,
SEG SOLAR INC., PT. SEG SOLAR MANUFAKTUR INDONESIA, and
SEG ENERGY SINGAPORE PTE. LTD.

Petitioners

v.

SHANGHAI JINKO GREEN ENERGY ENTERPRISE MANAGEMENT CO.,
LTD. and ZHEJIANG JINKO SOLAR CO., LTD.,

Patent Owner

Case No. IPR2026-00230

Patent 11,824,136

**OPPOSITION TO PATENT OWNER'S REQUEST FOR
DISCRETIONARY DENIAL**

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Patent Owner's ("PO") request for discretionary denial is littered with mischaracterizations and out-of-context arguments, as it attempts to manufacture alleged weaknesses in the Petition. When the Director views the Petition and the presented evidence in the proper context, PO's arguments are exposed, confirming that the Director should deny PO's request.

As Ground 6 of the Petition shows, the *Sakai* reference anticipates the '136 Patent's independent claims. The examiner clearly erred in considering *Sakai*. He mistakenly allowed the '136 Patent claims based on a limitation that he relied on in allowing the '136 Patent's *parent* application, but without recognizing that the '136 Patent's claims had *omitted* that limitation, rendering it inapplicable to distinguish *Sakai*. IPR should be instituted to address this clear error. PO attempts to obscure this error by presenting severely excised portions of prosecution of an application subsequent to the '136 Patent (without acknowledging its radical edits) to incorrectly represent that the examiner broadly proclaimed that *Sakai* discloses no "non-pyramid shaped" structures at all. Viewing the Examiner's language in its entirety exposes the fallacy in PO's argument.

The Board should not ignore this error and shield the infirm '136 Patent from IPR scrutiny based on discretionary factors like the potential for an alternate claim construction addressing **PO's** inconsistent claim application. The examiner's clear error in considering *Sakai* warrants instituting IPR to correct that error and maintain

the integrity of the Office's prosecution processes regardless of any alleged "hedging" on claim construction in the Petition. Indeed, Grounds 6-8 and 6A-8A contain no such hedges since *Sakai* and the other references therein clearly disclose all elements of all challenged claims under any plausible interpretation of the claims.

PO's arguments about alleged substantive weaknesses and expert gap filling also are meritless. For example, Petitioners' expert never contends that the "less than or equal to 45 microns" limitation is met by any dimension greater than zero. Rather, he stated that this limitation requires more than zero microns and then plainly showed where the art discloses non-zero dimensions within the claimed range.

The *Fintiv* factors only confirm that discretionary denial is not warranted here. Both the '136 Patent's term and the district court case against Petitioners are in their nascent stages. In fact, Jinko has so slowed the progress of the district court case that this IPR would be instituted before either side submits a claim construction brief. Under those circumstances, it is more efficient for the Board to institute IPR and the district court to issue a stay pending the IPR's outcome, which would be consistent with presiding Judge Bennett's practices. That other defendants in unrelated lawsuits have chosen to challenge validity only at the district court does not create any recognizable expectations for PO regarding the validity of its recently-issued patent.

Similarly, the hollowness of PO's RPII and *Sotera* stipulation arguments about SEG Solar Jiangsu Co. Ltd. become clear when facts are exposed that this

entity is not commonly owned or controlled by Petitioners and has not even been served in the district court case. Likewise, PO's arguments about U.S. manufacturing investments conveniently ignore that Petitioners have made and committed to even more investment in U.S. manufacturing efforts relating to the products at issue than has PO. Therefore, PO's request for discretionary denial should be denied.

I. The Merits of the Petition Are Strong.

Regarding Grounds 1-5 based on *Ye*, PO's sole merits criticism relies on an argument that Petitioners' expert Dr. E. Fred Schubert read "less than 45 microns" out of the claim by noting that this element must be a non-zero size. PO mischaracterizes Dr. Schubert's statement as contending that a structure of *any* non-zero size would meet this limitation, but that clearly is not what Dr. Schubert said. In stating that the one-dimensional size in claim 1[b] must be a non-zero size, Dr. Schubert was observing that having a one-dimensional size of zero microns would be illogical, and therefore the claimed size must be greater than zero. EX1003, ¶90. Dr. Schubert did not state or imply that a structure of *any* non-zero size would qualify. Indeed, later in the same paragraph, Dr. Schubert expressly stated that, based on the dimensions for the texture structures described in *Basu*, the size of the top surface of the rear texture structures in *Ye* (as combined with *Basu*) would be less than 10 microns, which meets the "less than 45 microns" limitation. EX1003, ¶90. Thus, Dr. Schubert clearly applied the plain language of claim 1[b]. In Ground 1A,

Dr. Schubert applied the “less than 45 microns” limitation in the same way, asserting that *Yun* discloses that its platform structures have an upper plane with a side length of 2-10 microns, also meeting the plain meaning of claim 1[b]. EX1003, ¶143. Tellingly, PO raises no issue with Dr. Schubert’s testimony in Ground 1A.

Regarding Grounds 6-8, PO argues that *Sakai*’s description of texture structures as “truncated quadrangle pyramid-shaped” cannot read on a “non-pyramid shaped” structure, apparently focusing on the word “pyramid-shaped” in isolation. *See* Paper 9 at 3. As an initial matter, PO ignores that *Sakai* expressly refers to not just a pyramid-shape but a ***truncated*** quadrangle pyramid-shape. A truncated pyramid is not a pyramid.¹ PO’s argument also contradicts the ’136 Patent specification, which states that “non-pyramid-shaped microstructures [may be] formed due to the damages to the spires of the pyramid-shaped microstructures.” EX1001 at 9:8-11. Thus, the ’136 Patent itself contemplates forming non-pyramid shapes by modifying pyramid-shaped structures (*e.g.*, truncating them or otherwise damaging their tips), which is precisely what *Sakai* discloses.

PO then resorts to the prosecution history of the ’136 Patent and its family members to attempt to support its strained reading of *Sakai*. In doing so, PO

¹ *Sakai* also notes that “the actual texture has pyramid-shaped unevenness ***of various sizes and shapes*** formed in plurality.” EX1009 at [0045] (emphasis added).

repeatedly misconstrues statements by the '136 Patent examiner about *Sakai*. Most critically, PO argues that the '136 Patent examiner found in the continuation application Serial No. 18/888,868 that “*Sakai* does not clearly show non-pyramid-shaped microstructures”—a refrain PO repeats at least 3 times in its request. Paper 9 at 3, 5 & 6 (citing EX2001 at 5). This blatantly misquotes the continuation application’s file history. In presenting that quotation, PO omits (without ellipses or any other notation) the vast majority of that sentence in which the examiner called out the *specific type of non-pyramid structures* the examiner believed were not clearly shown by *Sakai* (highlighted below).

However, <i>Sakai</i> does not clearly show non-pyramid-shaped microstructures, the non-pyramid-shaped microstructures include two or more first substructures at least partially stacked on one another, a surface of the first substructure is polygonal, and in a direction away from the rear surface and perpendicular to the rear surface, a distance between a surface of the outermost first substructure and a surface of an adjacent first substructure is equal to or less than 2 μm .
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EX2001 at 5. Contrary to PO’s argument, the examiner never found that *Sakai* did not disclose any non-pyramid structures, only that *Sakai* did not clearly disclose the specific non-pyramid structures *with all of the details recited in the examiner’s full*

paragraph, including limitations that are not recited in claim element 1[b].² Moreover, even if the '136 Patent examiner did believe that *Sakai* lacked non-pyramid structures, the examiner's unilateral statement—particularly one made 2 years after the '136 Patent was allowed—cannot limit the '136 Patent's claims. *See Salazar v. Procter & Gamble Co.*, 414 F.3d 1342, 1345-48 (Fed. Cir. 2005).

PO's argument regarding the '136 Patent's prosecution fares no better. PO misleadingly points to the passage in the notice of allowance in which the Examiner explained how *Sakai* did read on certain other elements of claim 1—*i.e.*, *Sakai*'s “pyramid form” texture structures reading on claim 1[c]'s pyramid-shaped structures and *Sakai*'s “truncated four-sided pyramidal rugged structure” reading claim 1[b]'s non-pyramid-shaped shaped structures. EX1018 at 15-16. In the next paragraph, the examiner proceeded to point out features that *Sakai* did not disclose. But there, the examiner explained that “*Sakai* does not clearly show among the overlapping unevenness *about the distance of the top face of an outermost protruding part, and the top face of the protruding part which adjoins it.*” EX1018

² As discussed in Section II., *infra*, these limitations appeared in the independent claims of the *parent* to the '136 Patent, but were *never presented in* the '136 Patent's independent claims. They appear only in '136 Patent dependent claim 2, which the Petition does not argue is anticipated by *Sakai*.

at 16 (emphasis added). As discussed in the Petition and below, these limitations are *absent* from the independent claims of the '136 Patent and so the examiner erred in relying upon them to allow those claims. But despite that error, the examiner never found that *Sakai* lacked non-pyramid-shaped microstructures.

II. Institution Should Not Be Denied Under Section 325(d).

Much of PO's argument that the examiner did not err in considering *Sakai* repeats PO's mischaracterization of the examiner's statements about *Sakai* during prosecution of the '136 Patent and its continuation discussed above. As explained above and in the Petition, the examiner never found that *Sakai* failed to disclose non-pyramid-shaped microstructures, and instead erroneously distinguished *Sakai* based on limitations that are not recited in the '136 Patent's independent claims.

The prosecution history of the '136 Patent's parent application confirms the examiner's error. The parent application's independent claims required that, for the rear first texture substructures, "in a direction away from the rear surface and perpendicular to the rear surface, a *distance between a top surface of an outermost first substructure and a top surface of an adjacent first substructure* is less than or equal to 2 μ m." EX1007 at 132-34 (emphasis added). In his reasons for allowing those claims, the Examiner found that *Sakai* was the closest prior art but explained that *Sakai* failed to disclose that element (highlighted below):

However, Sakai does not clearly show among the overlapping unevenness about the distance of the top face of an outermost protruding part, and the top face of the protruding part which adjoins it.

EX1007 at 12-13. The '136 Patent's independent claims never included that element. See EX1018 at 623-26, 693-95. Nevertheless, the examiner allowed the '136 Patent claims without ever making a prior art rejection, merely *repeating verbatim* the same reasons for allowance he had used to distinguish *Sakai* from the parent application (highlighted below)—reasons omitted from the '136 Patent independent claims.

However, Sakai does not clearly show among the overlapping unevenness about the distance of the top face of an outermost protruding part, and the top face of the protruding part which adjoins it.

EX1018 at 16. Clearly, the examiner overlooked that these elements had been omitted from the '136 Patent's independent claims and could not be used to distinguish those claims from *Sakai*. In view of this error, IPR should be instituted based on at least Grounds 6-8 and 6A-8A even though *Sakai* was of record.

PO also argues that the '136 Patent examiner already considered all the same disclosures of *Sakai* relied upon in the Petition. That is incorrect. There is no evidence of an English translation of *Sakai* (other than its abstract) in the '136 Patent file history or anywhere in the '136 Patent's family. Therefore, there is no way to

know whether the examiner reviewed a reliable translation of *Sakai*. At least in view of the examiner's error in comparing *Sakai* to the '136 Patent claims, the Board should assess how those of skill in the art would understand Petitioners' certified translation of *Sakai* and whether it truly discloses the '136 Patent claims.

PO also attempts to dismiss *Sakai* as wholly irrelevant to the '136 Patent, arguing that *Sakai*'s solar cells are of a type that is supposedly "not a TOPCon cell." Paper 9 at 6. As an initial matter, PO does not appear to dispute that *Sakai* discloses solar cells having a tunnel oxide layer as recited in claim 1[f], which is the only TOPCon-specific feature recited in the '136 Patent's claims. Thus, even if PO's bare attorney argument is correct, that does not make *Sakai*'s disclosure less relevant to the '136 Patent claims. To the contrary, both PO's and the examiner's treatment of *Sakai* during prosecution of the '136 Patent confirm its relevance here. PO itself repeatedly cited *Sakai* as prior art to the examiner in several information disclosure statements signed by its attorneys. EX1018 at 170-72 & 647-49. The '136 Patent examiner confirmed that relevance, expressly deeming *Sakai* to be "the closest prior art" to the claimed subject matter in the notice of allowance. EX1018 at 15-16.

III. Proper Consideration of *Sakai* Warrants Institution Despite the Potential for Different Claim Construction Positions in the District Court.

PO complains that Ground 1 "hedges" regarding the claim constructions it applies to certain aspects of claims 1[b] and 1[e]. However, PO ignores that, for each

claim element with an alleged “hedge,” the Petition specifically points to other prior art that discloses it under any plausible construction. Most critically, Grounds 6-8 and 6A-8A do not rely on the alleged “hedges” because *Sakai*—the reference that the ’136 Patent examiner erred in considering—discloses claims 1[b] and 1[e] under any plausible interpretation. Paper 1 at 30 n.6, 71, & 75-76.³

Discretionary denial of IPR should be based on “a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review” in light of all relevant issues. *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential). As discussed above, Grounds 6-8 and 6A-8A of the Petition seek to correct the examiner’s clear error in distinguishing *Sakai*. As the Director has found, “it is an appropriate use of Office resources to review” such errors in prosecution to protect the integrity of the Office’s patent prosecution process even despite the potential for a petitioner to take conflicting claim construction positions. *See Wybotics, Co. Ltd. v. Zodiac Pools Sys. LLC*, IPR2026-00158, Paper 12, at 4-5 (PTAB May 6, 2026).⁴ This distinguishes *Revvo* and other

³ Grounds 1A-5A also do not rely on the alleged “hedge” for claim 1[b] since *Yun* discloses it under any plausible construction. Paper 1 at 25 n.5 & 42-44.

⁴ As here, the *Wybotics* petition presented grounds based on the erroneously-

cases where the Director has denied institution based on contradictory claim constructions. Moreover, unlike the petitioners in *Revvo*, Petitioners have not proposed any indefiniteness arguments or presented any claim constructions in the district court action at all, and thus have not “advanced broader constructions than in district court.” Paper 9 at 9.

To the contrary, Petitioners believe that the relevant portions of claims 1[b] and 1[c] have their ordinary meanings, as applied in Grounds 6-8 and 6A-8A, and Petitioners will present those same meanings in district court. Petitioners only presented alternative positions in other grounds because, based on its complaint (and confirmed in its infringement contentions (EX1048)), PO apparently intends to construe those elements inconsistent with their plain meaning. Therefore, it is PO—not Petitioners—who have created the risk for inefficiencies between the district court and the Board. In any event, Petitioners will abide by the claim interpretations in Grounds 6-8 and 6A-8A, regardless of the impact on other grounds in the Petition.

At bottom, the need to address the examiner’s clear error in considering *Sakai* and the *Fintiv* factors overwhelmingly favoring Petitioners (*see* Section V., *infra*) strongly counsel for instituting this IPR, regardless of any issues raised by PO’s

considered reference as well as grounds based on other art, and IPR was instituted on all grounds. *See* IPR2026-00158, Papers 2 (Nov. 25, 2025) & 13 (May 15, 2026).

application of the claims contrary to their plain meaning. *See Wybotics*, IPR2026-00158, Paper 12, at 4-5.

IV. The Petition Does Not Rely on Expert Testimony to Fill Any Gaps.

PO argues that the Petition improperly relies on expert testimony to fill two gaps in *Ye*'s disclosure of the '136 Patent's claim elements. Both arguments fail.⁵

First, PO argues that Dr. Schubert attempts to fill a gap in *Ye*'s disclosure of a texture structure having a size of less than 45 microns as recited in claim 1[b] and 13[b]. To the contrary, Dr. Schubert properly relied on Ground 1's *combination* of *Ye*'s and *Basu*'s teachings for this claim element. Dr. Schubert notes that *Basu* disclosed certain dimensions for pyramid-shaped texture structures. EX1003, ¶90 (discussing *Basu*'s disclosure of a "pyramid base dimension is less than 10 microns"). Dr. Schubert then explained that, when *Basu* is combined with *Ye*, persons of skill in the art would understand that the polygonal texture structures on the rear side would have the same dimensions "since the silicon front surface and back surface are crystallographically equivalent and indistinguishable," and the rear side

⁵ PO does not allege any gap-filling in Grounds 1A-5A, 6-8, or 6A-8A. Indeed, *Yun* and *Sakai* expressly disclose the "less than 45 microns" element (*see* EX1003, ¶¶143, 264 (citing *Yun* at Abstract and several passages in *Sakai*)) and rear texture structures that are "stacked" (*see* EX1003, ¶¶143, 263 (citing *Yun* at Abstract, *Sakai* at [0045])).

structures are formed by polishing down pyramid-shaped structures on that side. *Id.* PO's argument improperly attacks *Ye's* disclosure alone, whereas Dr. Schubert properly combined *Ye's* teachings with *Basu's* to find claim 1[b] disclosed. *See Bradium Techs. LLC v. Iancu*, 923 F.3d 1032, 1050 (Fed. Cir. 2019) (obviousness "cannot be overcome by attacking references individually where the rejection is based upon the teachings of a combination of references"). In other words, there was no alleged gap in the **combination** of the prior art for Dr. Schubert to fill.

Next, PO argues that Dr. Schubert improperly attempts to fill a gap in *Ye's* disclosure of a "stacked" texture structure as recited in claim 1[b] and 13[b]. But Dr. Schubert does not rely on his own opinion to assert that *Ye* discloses a stacked texture structure. Rather, he relies on PO's own interpretation of "stacked" structures in its complaint and infringement contentions as discussed above and applies that interpretation to *Ye's* explicit disclosure. EX1003, ¶91.

Finally, PO again asserts that *Sakai* purportedly does not disclose a TOPCon solar cell and therefore argues that Dr. Schubert's analysis applying it to the '136 Patent must be faulty in some unspecified way. As noted above, PO does not dispute that *Sakai* discloses the claimed tunnel oxide layer, and the '136 Patent's prosecution history clearly confirms *Sakai's* relevance. Nevertheless, PO's bare attorney argument disagreeing with Dr. Schubert is not a basis for discretionary denial.

V. The *Fintiv* Factors Do Not Warrant Discretionary Denial.

Factor 1: Although Judge Bennett has denied one motion to stay a patent case *before* institution of an IPR, he did so *without prejudice* to refile after institution (EX2007), and Judge Bennett has granted several other stays quickly after IPR institution. EX1042; EX1043; EX1044. Petitioners intend to ask Judge Bennett to stay the case promptly following institution of the IPR in August, and are aware of no precedent that would support denying that motion. Judge Hanks is not presiding over the district court action against Petitioners, and so his practices regarding stays in other cases are irrelevant.⁶ Therefore, this factor favors institution.

Factor 2: Trial will not occur in the district court action against Petitioners until December 2027 at the earliest. The final written decision in this IPR would be due by August 26, 2027. That is well before the district court would likely pick up dispositive motions in the case and before the parties would conduct most of their

⁶ Moreover, the case PO cites in which Judge Hanks denied a post-IPR-institution stay (EX2008) had been pending for over 2 years (*see* EX1046 at 1 & 25), and the IPR petitions covered less than half of the claims asserted (*see* EX1047 at 1-2). Here, Petitioners sought IPR less than 4 months after PO's first assertion of its infringement claims (the district court action) and have challenged every claim of the '136 Patent asserted against Petitioners.

trial preparations. Realistically, the trial is likely to be later than December 2027. That is the original trial setting in the case and is expressly subject to movement based on the Court’s criminal docket. EX1045 at 4. And the Southern District of Texas’s statistics show median time-to-trial for all civil cases in 2025 of 27 months (EX1049), which would put trial against Petitioners in February 2028, even longer after the final written decision in the IPR would be due. This factor favors institution.

Factor 3: The parties’ and the court’s investment in the district court action has been minimal. So far, almost no discovery has occurred in the district court—no depositions have been taken or requested, and the parties have only exchanged limited written discovery. PO wrongly states that “[b]y institution, the court will have held a *Markman* hearing.” Paper 9 at 16. To the contrary, the institution decision is due on August 26—more than 3 months before the *Markman* hearing set for December 4, and almost a month before the opening *Markman* brief is due. EX1045. Indeed, PO *agreed* to delay the district court schedule by 3 months compared to the court’s standard schedule for patent cases. Under that agreed schedule, fact discovery will not close until 7 months after the IPR institution decision. *Id.* Therefore, the parties and the court will have ample time to consider the IPR institution and implement a stay before significant claim construction activities and fact discovery are likely to have occurred. This factor favors institution.

Factor 4: Petitioners seek IPR of every claim asserted in the PO’s

infringement contentions in the district court case. *Compare* EX1048 at 2 *with* Paper 1 at 5. Therefore, a finding of unpatentability in the IPR would fully resolve all issues in the district court case. Moreover, Petitioners and all persons and entities identified as potential real parties in interest (“RPIIs”) except one have now stipulated that they will not raise invalidity defenses in the district court that could have been raised in the IPR, if instituted. EX1051. Thus, this factor favors institution.

Factor 5: The only defendant in the district court case who is not a Petitioner and has not joined the *Sotera* stipulation is SEG Solar Jiangsu Co. Ltd. (“SEG Jiangsu”). However, as Petitioners’ counsel has repeatedly told PO, SEG Jiangsu is not commonly owned with or controlled by any of Petitioners or the other potential RPIIs, and so Petitioners have no ability to demand their stipulation. Moreover, PO has not even served SEG Jiangsu in the district court case, and so it is unclear whether or when the case will proceed against that entity at all. This factor is not relevant to institution.

Settled Expectations: The ’136 Patent is less than 3 years old, and PO first asserted it against anyone only about 17 months ago. The prior accused infringers’ choices to challenge invalidity in court cannot prejudice Petitioners’ right to challenge validity at the PTAB. If anything, the consistent validity challenges from every other defendant should create an expectation for PO that the ’136 Patent is vulnerable to validity attacks. Although PO mentions alleged licenses, it offers no

evidence that it has licensed the '136 Patent or any terms of such licenses. There are no long-standing settled expectations of PO or others that would warrant denial of IPR and, if anything, only an expectation that the '136 Patent will be challenged.

Identification of RPIIs: Petitioners list as an RPII or potential RPII every person or entity having any relationship with Petitioners that could even be argued to justify estopping them from seeking a separate IPR.⁷ PO does not argue that any other person, entity, or relationship should have been listed.⁸ Nor does PO explain how Mr. Jun Zhuge purportedly being “the nexus amongst the various SEG entities” or allegations regarding his unrelated activities (Paper 9 at 17-18) makes Petitioners’ RPII identification deficient, *particularly since Petitioners plainly list Mr. Zhuge as a potential RPII*. Nor does PO assert that Seraphim Energy Group, Inc. has any interest in this matter, much less explain why they should be considered an RPII.

⁷ Petitioners are updating their mandatory disclosures concurrently with this filing to list 2 recently-formed entities that are commonly owned with Petitioners. Those entities have joined the *Sotera* stipulation as well.

⁸ This distinguishes *Yangtze Memory Techs. Co., Ltd. v. Micron Tech., Inc.*, IPR2025-00098, Paper No. 38 (PTAB Jan. 15, 2026), where the petitioner failed to disclose its affiliations with foreign governments and a list of entities subject to certain trade restrictions in the United States.

Instead, PO debates the semantics of how Petitioners listed RPIIs. But Petitioners' identification is more than adequate. In an abundance of caution, Petitioners endeavored to provide an over-inclusive list that includes all of the named defendants in the district court action and other commonly-owned and controlled entities and persons regardless of their involvement in the allegedly-infringing activities or the filing of this IPR. In view of that approach, Petitioners simply (and accurately) acknowledged that certain of the listed persons and entities may or may not be RPIIs, consistent with the Board's guidance that determination of RPIIs "is a highly fact-dependent question." *See* Consol. Trial Practice Guide (Nov. 2019) at 13. But the list undisputedly includes all RPIIs, which is all that is required to affect the appropriate estoppel. And, as noted above, all of those persons or entities commonly owned with or controlled by Petitioners have now joined the *Sotera* stipulation. SEG Jiangsu—who has not even been served in the district court action and is not commonly owned with or controlled by Petitioners—is the only named defendant in the district court action or identified party who has not.

VI. Petitioners Have Significant Domestic Manufacturing Operations.

PO touts its own 2GW solar module manufacturing facility in the U.S., but ignores Petitioners' even more substantial manufacturing operations and investments here. Since 2024, the vast majority of Petitioners' solar modules accused of infringing the '136 Patent have been assembled in Petitioners' facility

near Houston, TX—an approximately 250,000 square-foot facility with 2GW of manufacturing capacity that required a \$60M investment. EX1050. More than 180 employees work at that facility, and certain of the solar modules made there have been used in large-scale utility projects across the United States and a project supporting Meta Inc.’s new data center in Oregon. EX1050. And Petitioners are increasing their investment in domestic manufacturing. In early June 2026, Petitioners will acquire an approximately 425,000 square-foot facility in the Houston area. This second facility will be capable of producing 4GW of solar modules annually and represents an investment of more than \$200M that will create up to 800 new jobs. EX1050. Therefore, this factor favors instituting Petitioners’ IPR.

VII. The Petition Does Not Present Redundant or Excessive Grounds.

Petitioners present two groups of grounds based on two independent deficiencies in the ’136 Patent’s original prosecution. Grounds 1-5 are fully based on art that was not of record during the ’136 Patent’s prosecution. Grounds 6-8 are primarily based on *Sakai*, a Japanese language reference that was of record, but was plainly erroneously distinguished during the ’136 Patent’s prosecution. The Petition’s “A” grounds are not redundant or excessive either. Those grounds add the *Yun* reference to address any incorrect argument that either of the base grounds lacks elements 1[b] and 13[b], as shown in Grounds 1A and 6A. *Yun*’s disclosure is not redundant of the Petition’s other references. Since elements 1[b] and 13[b] are in

independent claims, *Yun* 's disclosure of those elements is simply propagated through Grounds 3-5 and 7-8 in the other "A" grounds. The propagation of a single reference in this manner is not excessive and will not be burdensome for the Board to analyze. Nor is Petitioners' total of 15 specifically-identified grounds excessive based on the Board's precedent or rules. *Compare Adaptics Ltd. v. Perfect Co.*, IPR2018-01596, Paper 20, at 18-19 (PTAB Mar. 6, 2019) (denying institution where petitioner included a "catch-all" ground that "yield[ed] hundreds of possible combinations").

PO also complains that Ground 3A must be redundant or excessive because it is only two sentences long. Ground 3A is short because it only addresses dependent claims and a combination of art already presented in Ground 3 with the addition of *Yun* as in Ground 1A. It is therefore unremarkable that Ground 3A need only briefly incorporate the analysis in those other grounds in the Petition, and there is no PTAB rule barring such internal cross-references, particularly for dependent claims.

Date: May 26, 2026

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

Pursuant to the Interim Director Discretionary Process, the undersigned hereby certifies that this brief complies with the type-volume limitation of Section III.C.iii. of the Interim Director Discretionary Process guidelines, and the other formatting requirements of 37 CFR 42.6(a).

Respectfully submitted,

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Lead Attorney for Petitioners

Date: May 26, 2026

CERTIFICATE OF SERVICE

In accordance with 37 C.F.R. §42.6, the undersigned certifies that on May 26, 2026, a complete and entire copy of the **OPPOSITION TO PATENT OWNER'S REQUEST FOR DISCRETIONARY DENIAL AND EXHIBITS 1042-1051** were served on counsel of record as follows:

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