

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SOLAREdge TECHNOLOGIES LTD.,
Petitioner,

v.

KOOLBRIDGE SOLAR, INC.,
Patent Owner.

IPR2022-00011
Patent 8,937,822 B2

Before THU A. DANG, BRIAN J. McNAMARA, and
PATRICK M. BOUCHER, *Administrative Patent Judges*.

DANG, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. Background

SolarEdge Technologies Ltd. (“Petitioner”) filed a Petition requesting an *inter partes* review of claims 14–19 (the “challenged claims”) of U.S. Patent No. 8,937,822 B2 (Ex. 1501, “the ’822 patent”). Paper 2 (“Pet.”). Koolbridge Solar, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”).

Institution of an *inter partes* review is authorized by statute when “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314 (2018); *see also* 37 C.F.R. § 42.4 (2019). For the reasons stated below, we exercise our discretion under § 314(a) and deny institution of *inter partes* review in the instant proceeding.

B. Related Proceedings

Petitioner identifies the ’822 patent as the subject of *Koolbridge Solar, Inc. v. SolarEdge Technologies, Inc.*, No. 1:20-cv-01374-MN (D. Del.), which has been “voluntarily dismissed . . . without prejudice.” Pet. vi. According to Patent Owner, “the parties resolved the suit by stipulated dismissal in May [2021].” Prelim. Resp. 4 (citing Exs. 2002 (Complaint), 2003 (Stipulation of Dismissal)).

Petitioner also identifies the ’822 patent as the subject of IPR2022-00007, IPR2022-00008, IPR2022-00009, IPR2022-00010, and IPR2022-00012. Paper 3, 1 (“Petitioner’s Petition Ranking” or “Pet. Ranking”).

C. The '822 Patent

The '822 patent, titled “Solar Energy Conversion and Utilization System,” issued on January 20, 2015, from Application No. 13/103,070, with a filing date of May 8, 2011. Ex. 1501, codes (54), (45), (21), (22). The '822 patent discloses an electrical installation employing load inverter implementation to provide a household with solar-generated alternating current (“AC”) power. *Id.* at 30:36–38.

An illustration of an embodiment of the '822 patent's electrical installation is depicted in Figure 18, reproduced below:

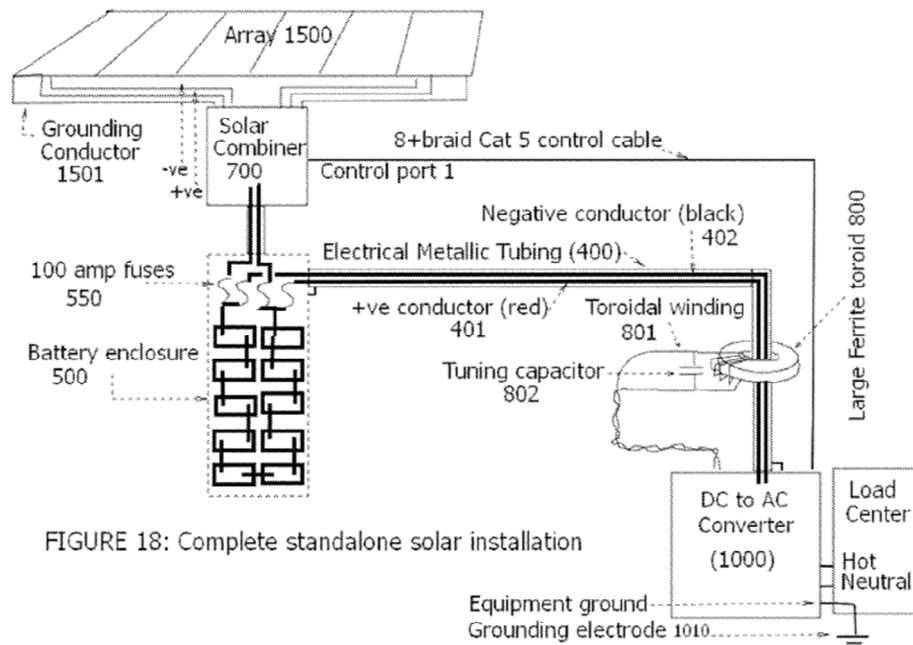


FIGURE 18: Complete standalone solar installation

Figure 18 is a block diagram of an electrical installation with a solar array comprising one or more strings of solar panels installed on a south-facing roof, for example, wherein any exposed metallic parts other than its electrical terminals shall be returned to ground via a grounding conductor to give some degree of protection against thunderstorm transients. *Id.* at 30:38–43. In the electrical installation shown in Figure 18, solar combiner

700 selectively combines the currents from multiple strings of solar panels in array 1500 according to relay control signals presented to control port 1. *Id.* at 31:1–4. Standalone inverter (shown as “DC to AC converter”) 1000 is connected to control port 1 via 8-conductor-plus-braid Cat 5 cable, and controls the string selection in order to maintain the voltage of battery 500 within desired limits. *Id.* at 31:4–8. The combined current from the selected strings is routed from solar combiner 700 to battery 500 to maintain a coaxial path. *Id.* at 31:39–41.

As shown in Figure 18, metallic conduit 400 is used to route wires from battery 500 through the ground leak detector comprised of ferrite toroid 800, toroidal winding 801, and tuning capacitor 802, to inverter 1000. *Id.* at 31:65–32:1. Metallic conduit 400 and its enclosed positive, negative and ground conductors pass in their entirety through ferrite toroid 800 which senses any unusual ground leak current, and outputs a corresponding voltage to inverter 1000. *Id.* at 32:1–27. An amplifier inside inverter 1000 amplifies this voltage and compares it to a threshold, wherein, if the voltage exceeds the threshold, inverter 1000 executes a shutdown, controlling solar combiner 700 to the direct current (“DC”) disconnect state and opening both the inverter AC output relays and the DC input power and start-up relays. *Id.* at 32:27–32. This completely isolates array 1500 from battery 500 and ground and battery 500 from inverter 1000 and ground, thus preventing any further ground leakage current. *Id.* at 32:32–35.

D. The Challenged Claims

Of the challenged claims (claims 14–19), claim 14 is independent, and is reproduced below:

14. In a solar energy installation comprising a photovoltaic solar array and a DC to AC converter having a DC input with positive and negative conductors routed in parallel with an array grounding conductor and an AC output having an output waveform with an output repetition frequency, a method of detecting a ground leak in the DC wiring to the solar array, comprising:

creating a common-mode AC probe signal waveform from said DC to AC converter at a characteristic repetition frequency that is in phase on both said DC positive and negative input conductors;

passing said positive and negative conductors from the array through a detector adapted to detect an unusual current with said common mode waveform at said characteristic repetition frequency and upon detection of said unusual current providing an indication of the presence of an unwanted ground leak.

Ex. 1501, 43:21–37.

E. Asserted Grounds of Unpatentability

Petitioner challenges the patentability of claims 14–19 of the '822 patent on the following grounds (Pet. 15):

Claim(s) Challenged	35 U.S.C. §¹	Reference(s)/Basis
14, 15, 18, 19	103	Fujimoto ² , Boniface ³ ,
14, 15, 18, 19	103	Fujimoto, NEC Handbook ⁴
16	103	Fujimoto, Boniface, NEC Handbook
17	103	Fujimoto, Boniface, NEC Handbook, Iwata ⁵

Petitioner relies on the Declaration of Dr. R. Jacob Baker, Ph.D. (Ex. 1502) in support of its unpatentability contentions.

II. ANALYSIS

A. Discretionary Denial Under 35 U.S.C. § 314(a)

Petitioner argues that institution is warranted in all six of the IPR proceedings which challenge the claims of the '822 patent, in particular:

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. §§ 102, 103, effective March 16, 2013. Because the application from which the '822 patent issued was filed before this date, the pre-AIA versions of §§ 102, 103 apply.

² Japanese Patent Application No. H11-122819, published April 30, 1999, filed October 20, 1997 (Exs. 1533, 1534 (English translation), “Fujimoto”).

³ U.S. Patent Publication No. 2009/0207543 A1, published August 20, 2009, filed December 18, 2008 (Ex. 1524, “Boniface”).

⁴ NEC Handbook, NFPA 70: National Electrical Code, issued 2008 (Ex. 1519, “NEC Handbook”).

⁵ U.S. Patent Publication No. 2008/0192519 A1, published August 14, 2008, PCT filed February 21, 2006 (Ex. 1507, “Iwata”).

1) IPR2022-00007, IPR2022-00008, and IPR2022-00009 challenging claims 1–13, and 20 (“Group 1”); and 2) the instant IPR, IPR2022-00010, and IPR2022-00012 challenging claims 14–19 (“Group 2”). Pet. Ranking 1–5. Patent Owner counters that the instant Petition should be denied as “duplicative and insufficiently tailored to meet the standards of institution.” Prelim. Resp. 2.

Institution of an *inter partes* review is discretionary. Section 314(a) of title 35 of the United States Code provides that:

The Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

The Supreme Court of the United States (“the Supreme Court”) has explained that, because § 314 includes no mandate to institute review, “the agency’s decision to deny a petition is a matter committed to the Patent Office’s discretion.” *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016); *see also Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (explaining that under § 314(a), “the PTO is permitted, but never compelled, to institute an IPR proceeding”). The Director has delegated his authority under § 314(a) to the Board. 37 C.F.R. § 42.4(a) (“The Board institutes the trial on behalf of the Director.”).

In deciding whether to institute *inter partes* review, we consider the guidance in the Consolidated Trial Practice Guide (“CTPG”), which sets forth the following:

Based on the Board’s experience, one petition should be sufficient to challenge the claims of a patent in most situations. Two or more petitions filed against the same patent at or about the same time (e.g., before the first preliminary response by the patent owner) may place a substantial and unnecessary burden on the Board and the patent owner and could raise fairness, timing, and efficiency concerns. *See* 35 U.S.C. § 316(b). In addition, multiple petitions by a petitioner are not necessary in the vast majority of cases. To date, a substantial majority of patents have been challenged with a single petition.

CTPG, 59. Nonetheless, “more than one petition may be necessary, including, for example, when the patent owner has asserted a large number of claims in litigation or when there is a dispute about priority date requiring arguments under multiple prior art references.” *Id.* To aid the Board, a petitioner who files two or more petitions challenging the same patent should “identify: (1) a ranking of the petitions in the order in which it wishes the Board to consider the merits . . . , and (2) a succinct explanation of the differences between the petitions” *Id.* at 59–60.

Here, Petitioner filed Petitioner’s Petition Ranking and Explanation explaining the differences among the Petitions and ranking the Petitions in the order that Petitioner wishes the Board to consider the merits. Pet. Ranking 1–5. In the Ranking, Petitioner requests that, for Group 2 petitions which include the instant IPR petition, we consider the petition for IPR2022-00010 first, consider the instant IPR petition second, and consider the petition for IPR2022-00012 last. *Id.* at 1.

Petitioner then asserts that all proceedings are “meritorious and justified,” identifying the differences between the petitions. Pet.

Ranking 1–5. In particular, Petitioner contends that “Suzui and Fujimoto[, primary references for IPR2022-00010 and the instant IPR,] teach different structures for detecting ground leakage,” while “Mirafzal and Ivan [, primary references for IPR2022-00012,] teach yet another structure that distinguishes sources of ground leaks based on the frequency of the common mode leakage.” *Id.* at 5 (citing Ex. 1528, Fig. 1).

For the reasons provided in our Decision on Institution in IPR2022-00010, we conclude that Petitioner has established a reasonable likelihood of prevailing in showing that all challenged claims 14–19 of the ’822 patent are unpatentable in that IPR. Therefore, we institute a review on all of claims 14–19 of the ’822 patent in IPR2022-00010.

“[A]bsent exceptional circumstances, only one petition should be filed against a single patent.” *See Gen. Plastic Indus. Co. v. Canon Kabushiki Kaisha*, IPR2016-01357 et. al. Paper 19 (discretionary factors re: multiple petitions); *Valve Corp v. Elec. Scripting Prods., Inc.*, IPR2019-00062, 00063, -00084, Paper 11 (deny institution – *General Plastic* factors apply to different Petitioner); *Valve Corp v. Elec. Scripting Prods. Inc.*, IPR2019-00064, -00065, -00085, Paper 10 (deny institution – *General Plastic* factor 1 applies to joint Petitioner), *Comcast Cable Comm. LLC v. Rovi Guides, Inc.*, IPR2019-00279 – IPR2019-00283 (July 1, 2019, Paper 10); *Comcast Cable Comm. LLC v. Rovi Technologies Corp.*, IPR2019-00285– IPR2019-00289 (June 10, 2019, Paper 15).

As discussed, Petitioner requests that we consider the IPR2022-00010 petition before considering this Petition. Pet. Ranking 1. In the instant Petition, there is no showing that the circumstance of the Petition is consistent with an exception referenced in the Trial Practice Guide (such as whether the patent owner has asserted a large number of claims in litigation or whether there is a dispute about priority date) (*see* CTPG, 59), which requires additional arguments to be made regarding other prior art references. *See* Pet. Ranking 1–5. Thus, the instant Petition does not contain sufficiently material differences to support instituting yet an additional *inter partes* review of the '822 patent.

Here, the same claims 14–19 are challenged in all three IPR proceedings in Group 2. *See* Pet. Ranking 1. Petitioner was able to address all of claims 14–19 of the '822 patent in each of its Petitions in Group 2. Since we institute on all of the challenged claims and all asserted grounds in IPR2022-00010, none of claims 14–19 of the '822 patent goes unchallenged.

Hence, in accordance with Petitioner's ranking, we first considered the Petition and Patent Owner's Preliminary Response in IPR2022-00010, and institute on all of the challenged claims and grounds set forth in IPR2022-00010. Because the instant Petition does not contain sufficiently material differences to support instituting an additional *inter partes* review of the '822 patent, we exercise our discretion under § 314(a) to deny institution of review in the instant proceeding.

III. CONCLUSION

For the foregoing reasons, based on a balanced assessment of the circumstances of this case, we exercise our discretion under § 314(a) and

IPR2022-00011
Patent 8,937,822 B2

deny the instant Petition requesting institution of *inter partes* review of the '822 patent.

IV. ORDER

In consideration of the foregoing, it is hereby

ORDERED that the Petition is denied as to all challenged claims and no trial is instituted.

IPR2022-00011
Patent 8,937,822 B2

For PETITIONER:

Frederic M. Meeker
Michael S. Cuvillo
John R. Hutchins
John Harris Curry
Azuka C. Dike
BANNER & WITCOFF, LTD.
fmeeker@bannerwitcoff.com
mcuvillo@bannerwitcoff.com
jhutchins@bannerwitcoff.com
jcurry@bannerwitcoff.com
adike@bannerwitcoff.com

For PATENT OWNER:

Robert R. Brunelli
Brian S. Boerman
SHERIDAN ROSS P.C.
rbrunelli@sheridanross.com
bboerman@sheridanross.com