

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SIEMENS GAMESA RENEWABLE ENERGY, INC.,
Petitioner,

v.

GENERAL ELECTRIC COMPANY,
Patent Owner.

IPR2022-01479
Patent 6,921,985 B2

Before BARBARA A. PARVIS, JEFFREY W. ABRAHAM, and
SCOTT B. HOWARD, *Administrative Patent Judges*.

HOWARD, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background and Summary

Siemens Gamesa Renewable Energy Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 29, 30, and 33–38 of U.S. Patent No 6,921,985 B2 (Ex. 1001, “the ’985 patent”). General Electric Company (“Patent Owner”) filed a Patent Owner Preliminary Response (Paper 8, “Prelim. Resp.”). We denied Petitioner’s request to file a preliminary reply relating to discretionary denial. Paper 9 (Order).

We have authority, acting on the designation of the Director, to determine whether to institute an *inter partes* review under 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a). *Inter partes* review may not be instituted unless “the information presented in the petition filed under section 311 and any response filed under section 313 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(a) (2018). “When instituting *inter partes* review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.” 37 C.F.R. § 42.108(a) (2022).

For the reasons set forth below, upon considering the briefing and the evidence of record, we determine that the information presented in the Petition establishes a reasonable likelihood that Petitioner will prevail with respect to at least one of the challenged claims. Accordingly, we institute *inter partes* review on all of the challenged claims based on all of the grounds identified in the Petition.

B. Real Parties in Interest

Petitioner identifies Gamesa Electric S.A.U., Siemens Gamesa Renewable Energy A/S, Siemens Gamesa Renewable Energy Inc., and Siemens Gamesa Renewable Energy SA as the real parties in interest. Pet. 2.

Patent Owner identifies General Electric Company as the real party in interest. Paper 3, 2 (Patent Owner’s Mandatory Notices).

C. Related Matters

The parties identify the following federal district court litigation that may affect or be affected by a decision in this proceeding: *General Electric Co. v. Siemens Gamesa Renewable Energy, Inc.*, No. 1:21-cv-11446-WGY (D. Mass.) (“District Court proceeding”). Pet. 2; Paper 3, 2.

Petitioner also identifies the following proceedings, which have been terminated: *In re Variable Speed Wind Turbine Generators and Components Thereof*, Inv. No. 337-TA-1218 (ITC)¹ (“ITC-1218”); *Vestas-American Wind Tech., Inc. et al. v. General Electric Co.*, IPR2018-01563 (PTAB) (“1563 IPR”); *Vestas-American Wind Tech. v. General Electric Co.*, IPR2018-01029 (PTAB) (“1029 IPR”); *General Electric Co. v. Vestas Wind Sys.*, c.a. no. 2-17-cv-05653 (C.D. Cal.); *General Electric Co. v. Wilkins*, c.a. no. 1:10-cv-00674-OWW-JLT (E.D. Cal.); *Inter partes* Reexamination 95/000,580 (USPTO); *General Electric Co. v. Mitsubishi Heavy Indus. Ltd.*, c.a. no. 2-09-cv-00229 (S.D. Tex.); *In re Variable Speed Wind Turbines and Components Thereof*, Inv. No. 337-TA-641 (ITC). Pet. 2–5.

¹ Petitioner states that Gamesa Electric S.A.U. filed an appeal of the ITC’s determination in this proceeding. Pet. 3. Neither party identifies that appeal as a related matter. See Pet.; Paper 3.

D. The '985 Patent

The '985 patent is titled “Low Voltage Ride Through for Wind Turbine Generators.” Ex. 1001, code (54). According to the '985 patent, power grid operators were imposing a low voltage ride through (“LVRT”) requirement for wind turbine generators connected to the electric grid. Ex. 1001, 1:25–34. The LVRT “requirement typically requires that a power generation unit must remain connected and synchronized to the grid when the voltage at the terminals of the generation unit fall to prescribed levels.” Ex. 1001, 1:29–34.

The '985 patent further states that “[i]n the past, wind turbine generators have been allowed to trip offline during a low voltage event.” Ex. 1001, 1:41–42. Under those circumstances, “a battery buffered pitch system, which typically includes three independent battery packs,” was used “to turn the blades of the wind turbine from an operating position to a park position when generator power is not available.” Ex. 1001, 1:42–48. “However, this does not satisfy LVRT requirements because the wind turbine generator is allowed to trip offline.” Ex. 1001, 1:55–57.

The '985 patent describes

techniques [to] allow a wind turbine generator to provide one or more of the following features: 1) to remain synchronized to the power grid during severe voltage fluctuations, 2) to maintain functioning of the blade pitch system in spite of lack of voltage at the generator terminals, 3) to protect the power converter and generator from high voltages and currents during the voltage fluctuation, and 4) to temporarily shut down non-vital subsystems that could be damaged by exposure to low voltages or could be tripped by either circuit breaker action or fuse operation.

Ex. 1001, 2:24–36. One embodiment described in the '985 patent for achieving those results is the use of an “uninterruptible power supply

E. Illustrative Claim

Claim 29 is independent, reproduced below, and illustrative of the claimed invention.

29. A method comprising:

providing power to wind turbine components using a generator of the wind turbine;

detecting a low voltage event;

receiving power from an uninterruptible power supply to a first subset of wind turbine components, wherein the first subset of wind turbine components comprises a blade pitch controller to selectively power the blade pitch controller to maintain a rotor speed below a predetermined overspeed limit during the low voltage event; and

disconnecting a second subset of wind turbine components from the generator during the low voltage event.

Ex. 1001, 8:45–58.

F. Prior Art and Asserted Grounds

Petitioner asserts that claims 29, 30, and 33–38 would have been unpatentable on the following grounds:

Claim(s) Challenged	35 U.S.C. §²	Reference(s)/Basis
29, 30, 33, 35	103(a)	Henriksen, ³ Akhmatov I ⁴

² The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. §§ 102, 103 that became effective on March 16, 2013. Because the application that issued as the ’985 patent was filed before March 16, 2013, we apply the pre-AIA versions of the statutory bases for unpatentability. *See* Ex. 1001, code (22).

³ Henriksen, T. (1984, October 22–26). *Description of the control system for WTS 75 naesudden*. European Wind Energy Conference, Hamburg, FRG (pp. 302–07) (Ex. 1037). All citations are to the pagination added by Petitioner.

⁴ Akhamtov, V., Knudsen, H, Bruntt, M, Nielsen, A. H. Pedersen, J. K., Poulsen, N. K., (2000, September 19–22). *A dynamic stability of grid-*

Claim(s) Challenged	35 U.S.C. § ²	Reference(s)/Basis
34, 36–38	103(a)	Henriksen, Akhmatov I, E.ON ⁵
29, 30, 33, 35, 37	103(a)	Akhmatov III, ⁶ Henriksen
34, 36, 38	103(a)	Akhmatov III, Henriksen, E.ON

Petitioner also relies on the testimony of Björn Andresen. Ex. 1032 (Andresen Declaration).

II. ANALYSIS

A. Legal Standards

In *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966), the Supreme Court set out a framework for assessing obviousness under 35 U.S.C. § 103 that requires consideration of four factors: (1) the “level of ordinary skill in the pertinent art,” (2) the “scope and content of the prior art,” (3) the “differences between the prior art and the claims at issue,” and (4) if in evidence, “secondary considerations” of non-obviousness such as “commercial success, long-felt but unsolved needs, failure of others, etc.” *Id.* at 17–18. “While the sequence of these questions might be reordered in any particular case,” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 407 (2007), the U.S. Court of Appeals for the Federal Circuit has repeatedly emphasized that “it is error to reach a conclusion of obviousness until all those factors are considered,” *WBIP, LLC v. Kohler*, 829 F.3d 1317, 1328

connected induction generators. Proceedings of the IASTED International Conference Power and Energy Systems, Marbella, Spain (pp. 235–44) (Ex. 1039). All citations are to the pagination added by Petitioner.

⁵ E.ON Netz GmbH, *Supplemental network connection rules for wind energy systems* (December 2001) (Ex. 1020).

⁶ Akhmatov, V. (2002). Modeling of variable-speed wind turbines with doubly-fed induction generators in short-term stability investigations. In Ackermann, T. (ed.), *Third international workshop on transmission networks for offshore wind farms* (pp. 1–23) (Ex. 1041).

(Fed. Cir. 2016). Because Patent Owner does not address objective evidence of non-obviousness, we focus solely on the first three *Graham* factors.

B. Level of Ordinary Skill in the Art

In determining whether an invention would have been obvious at the time it was made, we consider the level of ordinary skill in the pertinent art at the time of the invention. *Graham*, 383 U.S. at 17. “The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry.” *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991). The “person having ordinary skill in the art” is a hypothetical construct, from whose vantage point obviousness is assessed. *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998).

Factors pertinent to a determination of the level of ordinary skill in the art include “(1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field.” *Envtl. Designs, Ltd. v. Union Oil Co. of Cal.*, 713 F.2d 693, 696–697 (Fed. Cir. 1983) (citing *Orthopedic Equip. Co. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 1381–82 (Fed. Cir. 1983)). “Not all such factors may be present in every case, and one or more of these or other factors may predominate in a particular case.” *Id.*

Petitioner argues that a person having ordinary skill in the art “would have a bachelor’s degree in electrical engineering with coursework completed (or equivalent experience) in electrical power systems, electrical machines, power electronics, and renewable energy” and “two years of

experience working with power electronics and/or electrical machines.”
Pet. 18–19 (citing Ex. 1034, 100 (Initial Determination in ITC-1218)).

Patent Owner does not address the level of skill. *See* Prelim. Resp.

Accordingly, for purpose of this proceeding, we adopt Petitioner’s proposed level of skill.⁷

C. Claim Construction

We apply the same claim construction standard used in the federal courts, in other words, the claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b), which is articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See* 37 C.F.R. § 42.100(b). Under the *Phillips* standard, the “words of a claim ‘are generally given their ordinary and customary meaning,’” which is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at 1312–13.

Petitioner argues that the Examiner construed “during a low voltage event” and “maintain the rotor speed below a predetermined overspeed limit” in the *inter partes* reexamination and applies those constructions. Pet. 19. Petitioner argues that all other terms should be “given their plain and ordinary meaning.” *Id.*

Patent Owner does not address the construction of any terms. *See* Prelim. Resp.

⁷ If Patent Owner disagrees with Petitioner’s formulation of the level of skill in the art, it must do so in its Response. If a different level of skill would affect the outcome in this case, that parties must brief that issue as well.

For the purposes of this Decision, we need not expressly construe any claim terms. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that “we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

D. Discretionary Denial – Serial Petitions

The AIA was “designed to establish a more efficient and streamlined patent system that will improve patent quality and limit unnecessary and counterproductive litigation costs.” Patent Trial and Appeal Board Consolidated Trial Practice Guide (Nov. 2019) (“CTPG”), 56 (citations omitted).⁸ The Board has recognized these goals of the AIA, but also “recognize[d] the potential for abuse of the review process by repeated attacks on patents.” *General Plastic Co., Ltd. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19, 16–17 (PTAB Sept. 6, 2017) (precedential in relevant part).

In *General Plastic*, the Board articulated a list of non-exclusive factors to be considered in determining whether to exercise discretion under § 314(a) to deny a petition:

1. whether the same petitioner previously filed a petition directed to the same claims of the same patent;
2. whether at the time of filing of the first petition the petitioner knew of the prior art asserted in the second petition or should have known of it;
3. whether at the time of filing of the second petition the petitioner already received the patent owner’s preliminary

⁸ Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

response to the first petition or received the Board's decision on whether to institute review in the first petition;

4. the length of time that elapsed between the time the petitioner learned of the prior art asserted in the second petition and the filing of the second petition;

5. whether the petitioner provides adequate explanation for the time elapsed between the filings of multiple petitions directed to the same claims of the same patent;

6. the finite resources of the Board; and

7. the requirement under 35 U.S.C. § 316(a)(11) to issue a final determination not later than 1 year after the date on which the Director notices institution of review.

General Plastic at 16 (citing *NVIDIA Corp. v. Samsung Elec. Co.*, IPR2016-00134, Paper 9 at 6–7 (PTAB May 4, 2016)).

Patent Owner argues that the '985 was the subject of two earlier *inter partes* review proceedings, the 1029 IPR and the 1563 IPR. Prelim. Resp. 19–20. Specifically, Patent Owner argues that “the claims challenged in this Petition [are] a subset of those challenged in the 1029 IPR and materially the same as those challenged in the 1563 IPR.” Prelim. Resp. 21.

Patent Owner also argues that because Petitioner “reviewed and attempted to finetune” its grounds by learning from the 1029 IPR, the 1563 IPR, and their papers, “there is a significant relationship between Petitioner and Vestas”—the petitioner in the 1029 IPR and 1563 IPR. Prelim. Resp. 21–22 (citing *Ericsson Inc. v. Uniloc 2017, LLC*, IPR2019-01550, Paper 8 at 10, 12 (PTAB Mar. 17, 2020)).

We are not persuaded by Patent Owner's arguments that we should exercise our discretion and deny institution. There is no dispute that none of the two prior petitions challenging the '985 patent resulted in a final written decision on the merits. In the 1029 IPR, we denied institution based on 35

U.S.C. § 325(d). *See* Ex. 1005. And although we instituted trial in the 1563 IPR, we terminated that proceeding without issuing a final written decision due to settlement. *See* Ex. 1004. Because none of the prior proceedings resulted in a final written decision, assuming the parties do not settle, this will be the first proceeding to determine the merits of the challenges to the claims of the '985 patent.

Moreover, Patent Owner has not sufficiently shown a relationship between Petitioner and Vestas. Although we have exercised our discretion to deny institution in a serial petition even when the second filer is not the same as the filer of an original petition, we decline to do so in this case. *See Valve Corp. v. Elec. Scripting Prods., Inc.*, IPR2019-00062, Paper 11 at 2 (PTAB Apr. 2, 2019) (precedential). In *Valve*, Valve Corporation (“Valve”)—the petitioner—had a preexisting relationship with HTC Corporation and HTC America, Inc. (collectively, “HTC”), which had filed an earlier petition. *See Id.* at 9–10. Specifically, both Valve and HTC were accused of patent infringement based on the same product, “namely HTC’s VIVE devices that incorporate technology licensed from Valve,” and Valve employees provided HTC with technical assistance during the development of the accused devices. *Id.* In contrast, in this case, Patent Owner has not alleged any business relationship between Petitioner and Vestas.

We do not find Patent Owner’s reliance on *Ericsson* persuasive. *See* Prelim. Resp. 21–22. First, *Ericsson* is non-precedential case and we are not bound by it. Patent Trial and Appeal Board Standard Operating Procedure 2⁹ at 8–9 (“Every Board decision, other than a Precedential Opinion Panel

⁹ Available at <https://www.uspto.gov/sites/default/files/documents/SOP2%20R10%20FINAL.pdf>

decision, is a routine decision until it is designated as precedential or informative. A routine decision is binding in the case in which it is made, even if it is not designated as precedential or informative, but is not otherwise binding authority.”). Second, although the panel in that case found a significant relationship between petitioners based on a later petitioner reviewing the work product of a prior petitioner, we find the reasoning of that case inconsistent with the precedential *Valve* decision. As discussed above, *Valve* focuses on the *business* relationship between the parties. We decline to extend *Valve* beyond its clear holding.

Accordingly, because this is Petitioner’s first challenge of the claims of the ’985 patent in a post grant proceeding and no other challenge by a third party has been decided on the merits, the policy concerns of *General Plastic* do not apply and we need not address the remaining *General Plastic* factor. Accordingly, we decline to exercise our discretion to deny institution.

E. Discretionary Denial – Parallel Proceedings

Patent Owner argues that we should exercise our discretion and deny institution based on the District Court proceeding. *See* Prelim. Resp. 27–30. Petitioner disagrees. *See* Pet. 73–75.

Under § 314(a), the Director has discretion to deny institution of an *inter partes* review. *See Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016) (“[T]he agency’s decision to deny a petition is a matter committed to the Patent Office’s discretion.”); *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (“[T]he PTO is permitted, but never compelled, to institute an [*inter partes* review] proceeding.”).

In *NHK*, the Board denied institution relying, in part, on § 314(a) because the parallel district court proceeding was scheduled to finish before

the Board reached a final decision. *NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 (PTAB Sept. 12, 2018) (precedential) (Decision on Institution). “*NHK* applies to the situation where the district court has set a trial date to occur earlier than the Board’s deadline to issue a final written decision in an instituted proceeding.” *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 at 3 (PTAB Mar. 20, 2020) (precedential) (Order). When determining whether to exercise discretion to deny institution under *NHK* due to an earlier trial date, we consider the following factors (“*Fintiv* factors”):

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board’s exercise of discretion, including the merits.

Id. at 6. “These factors relate to whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding.” *Id.* In evaluating these factors, we take “a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review.” *Id.* (citing CTPG 58 (November 2019)).

On June 21, 2022, the Director issued an Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings With Parallel District

Court Litigation (“Interim *Fintiv* Guidance”).¹⁰ The Interim *Fintiv* Guidance provides “several clarifications” to “the PTAB’s current application of *Fintiv* to discretionary denial where there is parallel litigation” in response to comments received from stakeholders in response to a Request for Comments (RFC). Interim *Fintiv* Guidance 2.

1. Factor 1: Whether a Stay Exists or Is Likely to Be Granted if a Proceeding Is Instituted

Due to 1218-ITC, the District Court proceeding was stayed. Pet. 73; Prelim. Resp. 27. The stay was lifted on February 16, 2023. Ex. 2002 (Electronic Order Granting Motion to Lift Stay). Neither party has indicated that it requested a stay pending the resolution of the proceeding. *See* Pet.; Prelim. Resp.

Because neither party has requested a stay pending the completion of this *inter partes* review proceeding, Factor 1 is neutral. *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 12 (PTAB May 13, 2020) (informative) (Institution Decision) (holding that “[t]his factor does not weigh for or against discretionary denial” when neither party requested a stay).

2. Factor 2: Proximity of the Court’s Trial Date to the Board’s Projected Statutory Deadline

As discussed above, the District Court proceeding was stayed pending resolution of 1218-ITC. Although the stay was recently lifted, there is no dispute that a trial date has not been set. Pet. 73–74; Prelim Resp. 27–28.

¹⁰ Available at https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf.

There is also no dispute that average time to trial in the district is 34 months from filing. Pet. 73–74; Prelim Resp. 27–28. Based on that statistic, the trial is likely to take place after we issue a final written decision.

We are not persuaded by Patent Owner’s argument that a different case between the parties before the same judge went to trial after only 16 months and Patent Owner intends to seek “similar treatment” in the District Court proceedings. See Prelim. Resp. 27–28. The Interim *Fintiv* Guidance identifies several factors we should consider in assessing the likelihood of a trial. These include the “the most recent statistics on median time-to-trial for civil actions in the district court in which the parallel litigation resides,” the number of cases before the judge, “the speed and availability of other case dispositions.” Interim *Fintiv* Guidance 8–9. The time to trial in a different proceeding involving different issues is not included in the Interim *Fintiv* Guidance. Moreover, there is no evidence in the record to suggest that the District Court would be inclined to grant Patent Owner’s request.

Accordingly, this factor weighs against exercising our discretion to deny institution.

3. Factor 3: Investment in the Parallel Proceeding by the Court and Parties

The District Court proceeding was stayed and there has been no investment by the parties or the court. Pet. 73; Prelim. Resp. 28.

Accordingly, this factor weighs against exercising our discretion to deny institution.

4. Factor 4: Overlap Between Issues Raised in the Petition and in the Parallel Proceeding

Because the District Court proceeding was stayed, Petitioner has not indicated what prior art—if any—it will be relying on in the District Court

proceeding. *See* Pet. 73 (“There has been little or no investment in the district court case by the parties: several named defendants have not yet been served with the complaint, no defendant has answered it, and no schedule has been set.”). Accordingly, there is no evidence on which to evaluate this factor. Although Patent Owner points to a hypothetical overlap if Petitioner asserts the same prior art in the district court, that is speculative. *See* Prelim. Resp. 28–29. We do not consider speculation.

Accordingly, this factor is neutral.

5. *Factor 5: Whether the Petitioner and the Defendant in the Parallel Proceeding Are the Same Party*

Because Petitioner is the defendant in the District Court proceeding, this factor would normally somewhat favor exercising our discretion. *See Fintiv*, Paper 11 at 13–14. However, due to the statutory estoppel provision of section 315(e)(2), when the Final Written Decision will precede the trial—which is likely based on the time to trial statistics—this factor weighs strongly against exercising our discretion to deny the Petition. *See Huawei Techs. Co., Ltd. v. WSOU Invs., LLC*, IPR2021-00225, Paper 11 at 13–14 (PTAB June 14, 2021) (“[T]his factor ‘favors denial if trial precedes the Board’s Final Written Decision and favors institution if the opposite is true.’”); *Google LLC v. Parus Holdings, Inc.*, IPR2020-00846, Paper 9 at 20–21 (PTAB Oct. 21, 2020) (“Petitioner is the defendant in the parallel proceeding. This fact could weigh either in favor of, or against, exercising discretion to deny institution, depending on which tribunal was likely to address the challenged patent first.”).

Accordingly, this factor weighs strongly against exercising our discretion to deny institution.

6. *Factor 6: Other Circumstances that Impact the Board’s Exercise of Discretion, Including the Merits*

Petitioner argues that Patent Owner made inconsistent statements. Pet. 74–75. Patent Owner argues that all of its statements are consistent. Prelim. Resp. 29–30.

We need not resolve this dispute at this time. For purposes of this Decision, we will assume that Patent Owner’s statements are consistent and find this factor neutral.

7. *Balancing the Fintiv Factors*

We have considered the circumstances and facts before us in view of the *Fintiv* factors. Because our analysis is fact driven, no single factor is determinative of whether we exercise our discretion to deny institution under § 314(a). Considering the *Fintiv* factors as part of a holistic analysis, we are not persuaded that the interests of the efficiency and integrity of the system would be best served by invoking our authority under 35 U.S.C. § 314(a) to deny institution, and we decline to do so.

F. *Obviousness in View of Henriksen and Akhamtov I*

Petitioner argues that claims 29, 30, 33, and 35 would have been obvious over Henriksen and Akhamtov I. Pet. 36–50. Based on the current record, we are persuaded that Petitioner has established a reasonable likelihood of prevailing on this asserted obviousness ground with respect to at least claim 29.

1. *Summary of Henriksen*

Henriksen describes the “control and electrical systems for the 2 MW Wind Turbine system WTS 75-2.” Ex. 1037, 1. The system has six modes of operation: “Shut down, Preparations for stand by, Stand by, Start, Operation, Stop and Emergency stop mode.” *Id.* at 4. Henriksen describes

how a start begins with checking the systems and beginning a start sequence. *Id.* at 5. When the conditions for synchronization are met (1500 rpm), the system switches to operational mode and the power is ramped up to 2 MW. *Id.* “If the windspeed increases above cut out or the mean power output drops below a certain value or if a fault occurs transition will be made to the stop mode.” *Id.* In stop mode, “the power and pitch angle of the blades are ramped down.” *Id.* When the stop is complete, it will go to standby mode, unless the stop was the result of a fault, in which case the system will “continue to shut down mode.” *Id.*

Henriksen also describes two battery systems in the station, one of which will “supply[] the control equipment with uninterruptable power.” Ex. 1037, 3. Henriksen further describes how “an undervoltage relay is used to detect too low voltage levels which could deteriorate the function of equipment connected to the auxiliary power system.” *Id.* at 4.

2. Summary of Akhmatov I

Akhmatov I describes how a short circuit that causes the voltage through an electrical power system to fall will result in a turbine overspeed event. Ex. 1039, 2–3. Overspeed events result from a mismatch between an accelerating mechanical torque T_{MECH} imposed by wind and a decelerating electrical torque T_{ELEC} imposed by the grid. *Id.* When a grid fault decreases the voltage V_S at the wind turbine generator terminals, the electrical torque decreases but the mechanical torque remains unchanged. *Id.* If the generator speed “exceeds [a] stability boundary, the induction generator becomes overspeeded too much,” “it runs away,” and it “leads to [a] voltage collapse.” Ex. 1039, 4.

As a solution to that problem, Akhmatov I proposes using the pitch control system to turn the pitch of the blades and drastically reduce the

mechanical torque that is causing the overspeed event. Ex. 1039, 8. “When the blade angle control system is applied, the generator decelerates surely after the failure event, and the voltage will recover.” *Id.*

3. *Analysis of Claim 29*

a) *Undisputed Limitations and Reason to Combine*

Claim 29 recites “[a] method comprising.” Ex. 1001, 8:46. Petitioner argues that “[t]he prior art teaches methods of operating wind turbines.” Pet. 42 (citing Ex. 1032 § IX.B.1.a).¹¹

Claim 29 further recites “providing power to wind turbine components using a generator of the wind turbine.” Ex. 1001, 8:47–48. Petitioner argues that Henriksen “teaches providing power to wind turbine components using a generator of the wind turbine.” Pet. 42 (citing Ex. 1032 § IX.B.1.b). Specifically, Petitioner argues that Henriksen discloses an electrical layout of a wind turbine in which a generator provides power to wind turbine components along an auxiliary power distribution path. Pet. 42–43 (citing Ex. 1037, 3, Fig. 2).

Claim 29 further recites “receiving power from an uninterruptible power supply to a first subset of wind turbine components, wherein the first subset of wind turbine components comprises a blade pitch controller to selectively power the blade pitch controller to maintain a rotor speed below a predetermined overspeed limit during the low voltage event.” Ex. 1001,

¹¹ The parties do not address whether the preamble is limiting. Because Petitioner has sufficiently shown that the recitation in the preamble is taught by the prior art, there is no need to determine whether the preamble is limiting. *See Nidec*, 868 F.3d at 1017. If Patent Owner contends that the prior art does not teach the preamble, the parties shall brief whether the preamble is limiting.

8:50–56. Petitioner argues that the combination of Henriksen and Akhmatov I teaches “receiving power from an uninterruptable power supply to a first subset of components, including a blade pitch controller.” Pet. 44. Specifically, Petitioner argues that Henriksen teaches “receiving power from an uninterruptible power supply to control equipment,” including blade pitch controllers. Pet. 44–45 (citing Ex. 1037, 2–3). Petitioner further argues that Akhmatov I teaches “that a pitch angle controller remains active during a low voltage grid fault, which teaches that the controller should receive uninterruptable power during the fault” in order to “maintain[] a rotor speed below a predetermined overspeed limit (a speed greater than zero) during a low voltage event.” Pet. 45–46 (citing Ex. 1039, 8, Figs. 10(b), 11).

Petitioner also argues that a person having ordinary skill in the art would have combined the teachings of Henriksen and Akhmatov I and would have had a reasonable expectation of success. Pet. 36–42. Specifically, Petitioner argues that a person having ordinary skill in the art would have combined Henriksen and Akhmatov I to “ensure that blade pitch systems and their controls remain active throughout grid faults.” Pet. 40 (citing Ex. 1032 ¶¶ 129–131, 171, 172).

After reviewing Petitioner’s arguments and information regarding the limitations identified above, including the Andersen Declaration, which are not addressed by Patent Owner at this stage (*see* Prelim. Resp.), we are persuaded that Petitioner sufficiently demonstrates, for purposes of this Decision, that the combination of Henriksen and Akhmatov I teaches each of the limitations recited in this section and that a person having ordinary skill in the art would have combined the teachings of Henriksen and Akhmatov I.

b) Detecting a Low Voltage Event

Claim 29 further recites “detecting a low voltage event.” Ex. 1001, 8:49.

Based on the current record, we are sufficiently persuaded that Petitioner has shown the Henriksen teaches this limitation. *See* Pet. 43–44. Specifically, as Petitioner argues, Henriksen states “Earth faults are detected by neutral point voltage protections at different points in the system to achieve selectivity” and “[t]he magnetized generator is then synchronized to the grid with a standard synchronization device. This device measures the voltage and the frequency difference between the generator and the grid.” Ex. 1037, 4; *see also* Pet. 43–44 (quoting same). Those quotations from Henriksen discuss measuring voltages and detecting faults. *See* Ex. 1037, 4. That is sufficient, for purposes of institution, to show that Henriksen teaches or suggests “detecting a low voltage event.” *See Merck & Co. v. Biocraft Laboratories, Inc.*, 874 F.2d 804, 807–08 (Fed. Cir. 1989) (“[T]he question under 35 USC 103 is not merely what the references expressly teach but what they would have suggested to one of ordinary skill in the art at the time the invention was made.” (quoting *In re Lamberti*, 545 F.2d 747, 750 (CCPA 1976))).

Moreover, Henriksen specifically recites the disputed claim limitation: “[A]n undervoltage relay is used to detect too low voltage levels which could deteriorate the function of equipment connected to the auxiliary power system.” Ex. 1037, 4. Although this specific quote is not referenced in the specific subsection addressing this limitation, it is quoted in the general description of Henriksen and when discussing a different limitation that describes what happens when there is a low voltage event. *See* Pet. 25, 46.

Patent Owner argues that none of the quotes in the argument “mention ‘low voltage,’ let alone ‘*detecting* a low voltage event.’ Neither does Petitioner provide any explanation or rationale of how these quotes teach or suggest ‘detecting a low voltage event.’” PO Resp. 15. We do not agree with Patent Owner’s argument. First, in an obviousness analysis the prior art need not “contain a description of the subject matter of the appealed claim in *ipsissimis verbis*.” *In re May*, 574 F.2d 1082, 1090 (CCPA 1978). As discussed above, the sections of Henriksen quoted by the Petitioner when discussing the limitation suggests the disputed limitation. That is all that is required.

Second, the additional language from Henriksen contains substantially the same words that Patent Owner says it is missing. *See* Ex. 1037, 4. That is, Henriksen recites using a relay to “detect too low voltage levels.” *Id.* Accordingly, contrary to Patent Owner’s argument, Henriksen does recite the words that Patent Owner argues are missing.

Patent Owner also argues that Dr. Andersen’s testimony simply repeats the Petition’s conclusory arguments and is entitled to no weight. Prelim. Resp. 15–16. We agree. Mr. Andersen simply recites quotes from Henriksen and Akhmatov I and concludes that “[i]t is my opinion that the prior art teaches this subject matter.” Ex. 1032 ¶¶ 184–188. Although Mr. Andersen states what he is relying on in forming his opinion, his testimony provides no explanation. Such conclusory testimony that does not explain how the expert is forming his opinions “is entitled to little weight.” *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (PTAB Aug. 24, 2022) (Institution Decision) (precedential) (giving little weight to conclusory testimony that parrots the Petition); 37 C.F.R § 42.65(a). However, because

we rely on the Henriksen itself and not Dr. Andersen's testimony, this does not change our preliminary findings.

c) Disconnecting a Second Subset of Wind Turbine Components from the Generator During the Low Voltage Event

Claim 29 further recites “disconnecting a second subset of wind turbine components from the generator during the low voltage event.”

Ex. 1001, 8:57–58.

Based on the current record, Petitioner has sufficiently shown that a person having ordinary skill in the art would have modified Henriksen so that it “disconnect[ed] a second subset of wind turbine components from the generator during the low voltage event” as recited in claim 29. *See* Pet. 46–48. Specifically, Petitioner has sufficiently shown that Henriksen teaches disconnecting components in the event of a low voltage event. Ex. 1037, 4 (“[A]n undervoltage relay is used to detect too low voltage levels which could deteriorate the function of equipment connected to the auxiliary power system.”); *see also* Pet. 46 (quoting same). Petitioner has further shown that components are connected to the generator through the auxiliary power system and that disconnecting the components from auxiliary power system also disconnects them from the generator. *See* Ex. 1032 ¶¶ 200; Ex. 1037, Fig. 2; Pet. 46–47.

Petitioner has also sufficiently shown that a person having ordinary skill in the art would have only connected a subset of the control components to the UPS. *See* Ex. 1032 ¶¶ 173, 201; Pet. 47. Specifically, Petitioner has sufficiently shown that a person having ordinary skill in the art would recognize that disconnecting non-critical loads during a low voltage event extends the useful life of a UPS and that those disconnected components would be those that are not critical to wind turbine operation.

See Ex. 1032 ¶¶ 173, 201; Pet. 47–48. “Once the low voltage fault concludes, normal wind turbine operation can resume and these components can be reconnected.” Ex. 1032 ¶ 201; *see also* Pet. 47–48.

We do not agree with Patent Owner’s arguments challenging Petitioner’s arguments and evidence. Specifically, Patent Owner argues “Petitioner relies on a single sentence from Henriksen that mentions an ‘undervoltage relay’ in connection with ‘equipment connected to’ Henriksen’s ‘auxiliary power system’” and that Henriksen “never identif[ies] which components of its system are or are not connected to it.” Prelim. Resp. 17 (citing Ex. 1037, 4). Patent Owner further argues that although “Henriksen arguably suggests that its undervoltage relay can disconnect *all* components connected to the auxiliary power system,” it “does not disclose or suggest ‘disconnecting a second subset of wind turbine components from the generator during the low voltage event.’” *Id.*

Patent Owner also argues that Henriksen does not suggest disconnecting non-critical loads during a low voltage event to extend the useful life of a UPS. Prelim. Resp. 17–18. According to Patent Owner, “Petitioner improperly relies on hindsight to arrive at the recited ‘disconnecting a second subset.’” *Id.* at 18.

Patent Owner also argues that several of the items identified by Petitioner as not critical are described as critical in Henriksen. Prelim. Resp. 18–19. According to Patent Owner, in the event of a fault, Henriksen teaches turning off all subsystems, not a subset. *Id.* at 18 (citing Ex. 1037, 4–5). Patent Owner further argues that shifting from shut down mode to preparation for standby mode will require some of the very subsystems Petitioner argues can be disconnected from the generator. *Id.* at 18–19 (citing Ex. 1037, 4–5)

All of Patent Owner’s arguments are premised on what is explicitly taught by Henriksen. *See* Prelim. Resp. 17–19. However, that is not commensurate with Petitioner’s theory. Instead, Petitioner’s theory is that a person having ordinary skill in the art would have modified Henriksen in light of Akhmatov I. Specifically, in light of Akhmatov I, Petitioner argues that a person having ordinary skill in the art would have modified Henriksen to use the UPS to power the blade pitch controllers. *See* Pet. 44–46. Petitioner further argues that in light of that modification, the person having ordinary skill would have further modified Henriksen to limit the systems connected to the UPS to extend the life of the UPS. *See* Pet. 46–48. Petitioner further argues that a person having ordinary skill in that art, based on the teachings of Akhmatov I, “would ensure that blade pitch systems and their controls remain active throughout grid faults.” Pet. 40 (citing Ex. 1032 ¶¶ 129–131, 171, 172). Accordingly, Patent Owner’s argument about unmodified Henriksen do not address the full scope of Petitioner’s theory—premiered on the combination of Henriksen and Akhmatov I as modified by a person having ordinary skill in the art—and are inapposite.

d) Conclusion Regarding Claim 29

Based on the current record, there is a reasonable likelihood that Petitioner will prevail in demonstrating that claim 29 is unpatentable as obvious in view of Henriksen and Akhmatov I.

4. Analysis of Claims 30, 33, and 35

Because Petitioner demonstrates a reasonable likelihood of success in proving that at least one claim of the ’985 patent is unpatentable, we institute on all grounds and all claims raised in the Petition. *See* 37 C.F.R. § 42.108(a). Therefore, at this stage of the proceeding, it is not necessary for us to provide an assessment of every challenge raised by Petitioner,

especially, as in this case, when Patent Owner does not separately argue those claims. Those challenges, in our view, are best left for trial after full development of the record.

G. Remaining Grounds

Petitioner also asserts various other challenges against claims 29, 30, and 33–38. *See* Pet. 50–71. Besides relying on the arguments addressed above, Patent Owner does not separately address the merits of Petitioner’s other prior art challenges. *See* Prelim. Resp. 13–19. Because, as discussed above, Petitioner meets the threshold for institution by demonstrating a reasonable likelihood that at least claim 29 is unpatentable as obvious in view of Henriksen and Akhmatov I, we need not decide whether Petitioner’s other challenges demonstrate the same. Those challenges, in our view, are best left for trial after full development of the record.

III. CONCLUSION

Following § 314, we have determined that the totality of the information presented at this stage shows there is a reasonable likelihood that Petitioner would prevail with respect to at least one of the claims challenged in the Petition, and we institute on all grounds raised and all claims challenged in the Petition.

Our factual findings, conclusions of law, and determinations at this stage of the proceeding are preliminary, and based on the evidentiary record developed thus far. This is not a final decision as to the patentability of claims for which *inter partes* review is instituted. Our final decision will be based on the record as fully developed during trial.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review is instituted for claims 29, 30, and 33–38 of the '985 patent on the unpatentability grounds asserted in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial, which commences on the entry date of this decision.

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